

ISG for competence

Intelligent Serious Games for Social and Cognitive Competence

Curriculum and scenarios framework

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For further information related to the ISG For Competence project please visit:

the project website (<http://isg4competence.eu>);

Facebook page (<facebook.com/ISG4competence>)

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1. Introduction

1.1 The concept of ISG 4 Competence project

The 3-year project “Intelligent Serious Games for Social and Cognitive Competence” targets children & youth with disabilities, teaching them on creativity and social competencies, using serious desktop and mobile games.

The IO2 is based on the results and conclusions from desktop and survey findings from IO1 Scoping Report. It aims to produce a suite of serious games on accessible learning objects in basic skills, key skills, personal development, work preparation and work sustainability. These serious games will be applicable in the following educational settings:

- Schools – special and mainstream with special needs units
- Day care centres
- Education and training providers
- Public sector organizations dealing with inclusive education
- Public sector – health and social care providers

The aim of this document is to present the curriculum and learning scenarios framework which will be implemented through the development, iterative testing and piloting of the suite of the serious games (desktop and mobile).

Curriculum (description): A sequence of course, a set of performance objectives, a course of study, it is a subject matter and statement of ends.

1.2 Rationale and principles of the curriculum development.

The ISG4Competence harmonised European curriculum is based on the principles of collaborative blended learning which involves a student/person with mild learning difficulties and a trainer/teacher. People who have completed this curriculum are expected to have increased social and in particular cognitive competences which correspond to their personal educational and employment needs.

The interaction between the student with learning difficulties and the trainer is on a conceptual basis, therefore there is no recommendation for frequency of activities or duration of the learning process.

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This curriculum is developed (after the Taba Model¹) by implementing an inductive approach (beginning with the specifics) with the following sequence:

- Identify the needs of the student with mild learning difficulties (what are the current gaps in terms of social and creativity competences – for reference IO1 Consolidated survey report).
- Develop person-driven aims and objectives.
- Select content that matches those aims and objectives.
- Organise sessions that take into account the learner’s experience and abilities.
- Select an appropriate instructional method that promotes the student’s engagement.
- Review mid-term progress after six months.
- Regular review of the balance and sequence between different types of activities
- Complete monitoring and evaluation forms.
- Report to the training coordinators in the respective countries.

The ISG4Competence curriculum is designed on the following principles:

- Challenge and enjoyment
- Progression
- Depth
- Personalisation and choice
- Coherence
- Relevance

The ISG4Competence curriculum is based on a philosophy of education that incorporates the following five principles:

- The full and harmonious development of the individual.
- The importance of making due allowance for individual difference.
- The importance of activity and discovery methods.
- The integrated nature of the curriculum.
- The importance of problem-based learning.

¹Taba, H., 1962. *Curriculum development: Theory and practice*, New York: Harcourt, Brace & World.

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The three pedagogical principles dealing with activity and discovery methods, an integrated curriculum and problem-based learning are subsumed into a wider range of learning principles that help to characterise more fully the learning process that this ISG4Competence curriculum envisages.

These are:

- the sense of wonder and natural curiosity of students with mild learning difficulties is a primary motivating factor;
- the student as an active agent in his or her lifelong learning and improvement of his/her social and creativity competences;
- improvement of social and creativity competences is developmental in its nature;
- learning should involve guided activity and discovery methods;
- easy to understand language is central in the learning process;
- social and emotional dimensions are important factors in learning;
- learning is most effective when it is integrated;
- skills that facilitate the transfer of learning should be fostered;
- active listening, understanding instructions, problem-solving and observational skills should be developed;
- collaborative learning should be a feature in the learning process;
- the range of individual differences should be taken into account in the learning process;
- assessment of the impact and progress of the student with mild learning difficulties is an integral part of process.

1.3 Framework of the curriculum

By using the suite of serious games for desktop and mobile usage, students with learning difficulties will increase their skills and competences in achieving goals, managing their behaviour in a social context, anticipating the consequences of their behaviour for self and others, generating creative solutions, building a positive sense of self-efficacy, managing their time and resource to prepare for the school activities, improve cooperation with peers and teachers/trainers, coping with difficulties and managing social interactions. An important goal of the curriculum is to enable people with learning difficulties to learn and understand how to improve their social and cognitive competences and to develop an appreciation of the value and practice of the lifelong learning.

1.4 Curriculum requirements

Students with learning difficulties could benefit from this course, improving their:

1. Regular attendance and participation.
2. Satisfactory performance during practical exercises and gaming.
3. Understanding of the concept of different social competences and creativity.
4. Transfer of abilities into the world of education, training and employment.

The term “curriculum” is used in the context of additional innovative structured methodology which aims to enhance the existing curricula in mainstream and special education environments. Its aims are not in contradiction with existing ones rather it aims to contribute for the acquisition of social and cognitive competencies which are frequently neglected in the mainstream education (for reference IO1 Consolidated findings report).

It will be followed by the following activities:

- Educational content development including transposing of elements so all units are covered for broad user groups (students with different learning difficulties)
- Confirm the methodology by which the content of the learning objects for the scenarios will be scope by the user groups via online meeting between all partners
- Work with end user groups (focus groups of 5 stakeholders in each country) to develop the learning objects
- Work with end user groups (focus groups of 5 stakeholders) in each partner country to input to the games design document for each scenario
- Analyse the results from the user groups in each partner country, to collaborative produce the final full games design document for each scenario
- Development of a social competencies unit and creativity using 3D scenarios, web and mobile games
- Agreement of final version before translation and gathering feedback from the local focus groups
- Translation into national languages
- Production of the course material
- Uploading specific pilot testing course content and supporting content

2. Social and Cognitive competences: a definition

Social competence is a complex, multidimensional concept consisting of *social*, *emotional* (e.g. affect regulation), *cognitive* (e.g. fund of information, skills for processing/acquisition, perspective taking), and *behavioural* (e.g. conversation skills, pro-social behaviour) skills, as well as motivational and expectancy sets (e.g. moral development, self-efficacy) needed for successful social adaptation. Social competence also reflects having an ability to take another's perspective concerning a situation, learn from past experiences, and apply that learning to the changes in social interactions. Social competence is the foundation upon which expectations for future interaction with others are built, and upon which individuals develop perceptions of their own behaviour. Often, the concept of social competence frequently encompasses additional constructs such as social skills, social communication, and interpersonal communication.²

If we now fine-tune on the core target of the **cognitive competences**, then we consider those competences through which people can *operate their personal experiences and organize and adapt their thoughts to guide their behaviour* (e.g. creative thinking, reasoning, problem solving and information processing, decision making, time management, managing resources, orientation, etc.).

According to Piaget, cognitive competence constitutes the cyclical processes of assimilation and accommodation, which indicates that people can manipulate their personal experiences as well as organize and adapt their thoughts to guide their behaviour. Similarly, Fry pointed out that cognitive competence comprises three interwoven and interdependent components: cognitive structures, cognitive processes, and overt behaviours. Among them, "cognitive processes", such as metacognition, cognitive styles of self-regulation, and cognitive skills of thinking, reasoning, analysing problems, and information processing, can affect one's

² Semrud-Clikeman, M. (2007). Social competence in children. New York, NY: Springer Science+Business Media.

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“behaviours” like task performance, problem solving, and decision making, as well as “cognitive structures,” such as self-schemas and goal orientation.³

³ As mentioned in “The Scientific World Journal, Volume 2012 (2012), Article ID 210953, 7 pages, <http://dx.doi.org/10.1100/2012/210953>, Cognitive Competence as a Positive Youth Development Construct: A Conceptual Review, Rachel C. F. Sun and Eadaoin K. P. Hui, Faculty of Education, The University of Hong Kong, Hong Kong.

3. Target groups of learners through game based learning in the frame of ISG4Competence project

The target groups of learners who may take benefit from the suite of serious game is related to the following beneficiaries:

- **Students with mild learning disabilities** (slow rate of maturation, reduced learning capacity and inadequate social adjustment)
- **Students with sensory impairments**
- **Students with low level social skills**
- **Students with specific learning difficulties** (dyslexia, dyspraxia, autism spectrum disorder, ADHD)

The target groups who may take benefit from the exploitation of the suite of serious games and who are working with the above mentioned learners are:

- **Professionals involved in education** - Inclusive education; Special education; Public teachers (resource teacher, speech therapist, etc.); Private teachers (resource teacher, speech therapist, etc.); Professionals working with people with disabilities; Educational planning/methodology experts (evaluates the curriculum for schools and suggest changes); Headmasters/principals.
- **Families of children and youth with disabilities** - (Moderate) learning difficulties (dyslexia, dyscalculia, ...); (Moderate) learning disabilities (ADHD, autism spectrum); Low social skills / deviant (actions or behaviours that violate social norms) behaviour;
- **Intermediaries** - Medical centre/authority; Health care organization; Social care organization; Development agency
- **Training centres** – in the context of mainstream education; Inclusive education; Special education
- **Academicians** - (Special) pedagogy; Psychology; ICT / gaming /Assistive technology etc.

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Above mentioned target groups of learners and beneficiaries will be included in all stages of the development and testing of the project intellectual outputs as well as with representatives in the national advisory boards in each partner country.

4. Educational settings of application of the suite of serious games

The ISG4competence serious games will be applicable to support the education and training in the following educational settings:

- Classrooms in mainstreaming schools - used as additional approach to fulfil the learning outcomes of particular learning subject
- Extracurricular activities in the schools – used as possible alternative approach for acquisition of basic and key competencies which cannot be covered during compulsory courses at schools
- Private lessons – used as an alternative educational approach for students who cannot attend mainstream courses
- Private sessions with resource tutors, psychologist or speech therapist – use as a training method for acquisition/improvement of basic and key competencies.
- Activities of youth volunteering informal groups – used as a media where peer learning support could be facilitated.

Although that it is not preliminary expected some of the games will be applicable also for kindergarten settings.

5. Curriculum – framework and learning scenarios

Based on the results from the IO1 Consolidated survey findings the consortium has decided on the following curriculum framework and learning objects (scenarios).

The partners who are responsible for the pedagogical framework of the curriculum and learning scenarios are:

- P4 ZGURA-M, Bulgaria
- P5, PhoenixKM, Belgium
- P6, UBITED, Turkey

In all partners' countries, the cognitive competencies students should obtain / enhance during their school years (6-18) are identical and should therefore guide the project partners to the following domains:

- Self-esteem and self-confidence
- Managing anxiety and stress
- Team working
- Communication
- Problem solving
- Improvement of own learning
- Time management

The learning challenges which children & youth with learning difficulties face are almost everywhere the same on an educational and social level, with especially basic & key competences skills (on educational level), task management skills, social learning skills, self-presentation skills. The creative thinking is a competence which will be considered throughout all domains mentioned in above. Therefore the creativity unit will be considered as part of each of the 7 domains.

5.1 Self-esteem and self-confidence

5.1.1 Identify why self-esteem and confidence is important

1 Title: Identify why self-esteem and confidence is important

2 Aims:

- This unit will help the students to recognise the importance of self-esteem and confidence.

3 Learning objectives:

- To understand why self-esteem and confidence is important in personal development.
- Be able to identify what is meant by self-esteem and self-confidence.
- Demonstrate the reasons why self-esteem is important.
- Demonstrate the consequences of the loss of self-esteem.

4 Content of the scenarios:

- **Students to understand why self-esteem and confidence is important in their personal development**
 - Self-esteem and confidence are important because people who have high self-esteem are likely to be happy, well adjusted, successful and healthy.
 - It is important to personal happiness and personal success to feel valued and that you matter.
- **Students to be able to identify what is meant by self-esteem and self confidence**
 - Definitions of self-esteem and self-confidence.
 - Self-esteem as having a favourable regard and respect for oneself.
 - Self-confidence as a belief and trust in own abilities, qualities and judgment.
- **Demonstration of the reasons why self-esteem is important**

If you have self-esteem then you will:

- feel good about yourself,
- feel that you matter to others,
- have the confidence to try new things, takes risks, meet new people, and talk to others.
- **Demonstration of the consequences of the loss of self-esteem**

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- If you don't have self-esteem you could:
 - Feel lonely and unhappy
 - Feel unsure of yourself
 - Worried about things
 - Not feel like behaving well
 - Find it difficult to try doing something new
 - Find it difficult to meet new friends
 - Find it difficult try new job opportunities
 - Feel bad about yourself

5 Teaching strategies

- Role play situations
- Picture cards to recap learning of examples of positive and negative body language

6 Summary

Through using outlined framework to recap skills, learning outcomes can be measured and recognised.

7 Glossary

- Self-esteem: having a favourable regard and respect for oneself.
- Self-confidence: a belief and trust in own abilities, qualities and judgment.

5.1.2 Recognise personal skills and qualities that develop self-esteem and confidence

1 Title: Recognise personal skills and qualities that develop self-esteem and confidence

2 Aims:

- This unit will help students to recognise their personal qualities and develop self-esteem.

3 Learning objectives:

- Recognise personal skills and qualities that develop self-esteem and confidence
- Reappraise past experiences

4 Content of the scenarios:

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- **Recognition of personal skills and qualities that develop self-esteem and confidence**
 - Recognising his/her personal qualities involves knowing his/her good points, s/he will be able to talk about them and feeling good enough about himself/herself that they won't be too upset by people saying bad things about them and won't keep thinking about bad things people have said.
- **Reappraise past experiences**
 - Recognising our qualities can allow us to look at things that have gone wrong for us in a different way. We may then realise that things that have happened in the past may not be our fault. This can help us to learn how to move on from past experiences.

5 Teaching strategies

- Role play scenarios on past experiences
- Recap learning actions

6 Summary

Students should be able to select/list what makes them feel good about themselves and recognise their own achievements and abilities.

7 Glossary

- **Reappraise:** To look at something again to see if you feel the same about it.
- **Your personal qualities:** Something that is particularly good or nice about you.
- **Achievements:** Something you have done well or a task you have completed successfully.

5.1.3 Develop skills and qualities to build self-esteem

1 Title: Develop skills and qualities to build self-esteem

2 Aims:

- This unit will help students to identify ways to improve their levels of confidence and self-esteem.

3 Learning objectives:

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- Develop skills and qualities to build own self-esteem.
- Develop skills at supporting other people to build their self-esteem.

4 Content of the scenarios:

- **To help students to recognise their own skills and abilities:**
 - Learn to know when they have done something well and should be proud of themselves.
 - Students to set targets and be determined to meet them.
 - To train them if they're not able to do something right the first time, they should not give up and try again.
- **To help students to support others to build theirself-esteem :**
 - Offer encouragement
 - Tell them when they've done well
 - Offer support when they're finding things difficult

5 Teaching strategies

- Target sheet to identify new skills to develop.
- Role play scenarios.

6 Summary

Through role play and initiating sheet (targets set) students should have more understanding of abilities and/or skills achieved and new ones set a review/follow up session needs to be in place for new targets to be reviewed.

7 Glossary

- Be determined: make your mind up that you're definitely going to do something.

5.2 Managing anger and stress

5.2.1 Understanding Anger and Aggression

1 **Title:** Understanding Anger and Aggression

2 **Aims:**

- This unit will help students to identify what makes them feel angry and what makes their anger turn into aggression.

3 **Learning objectives:**

- Understand and recognize the feelings of anger and aggression.
- Recognize situations and conditions that trigger aggression.

4 **Content of the scenarios:**

- **The student will understand and recognize the feelings of anger and aggression**
 - What does it feel like to be angry?
 - What kinds of behaviour show aggression?
 - Can you be angry without being aggressive?
 - Is it right to get angry?
 - Is it right to be aggressive?
- **Recognize situations and conditions that trigger aggression**
 - Feelings of frustration
 - Feeling out of control
 - Being unsure of how to react to other's behaviour sometimes leads to aggression
 - Not being able to talk about your feelings
 - Feeling you're not being listened to
 - Fear caused by being in new situations

5 **Teaching strategies**

- Picture cards showing different emotions/ scenarios
- Simulation/interaction on anger and aggression
- Case scenarios

6 Summary

Through interaction, simulation, picture recognition and case scenarios, students should be able to identify aggression and its triggers more easily.

7 Glossary

- Glossary: Anger and aggression are strong reactions to things going wrong or not getting everything our own way or being upset with the things that other people do or say to you.
- Anger: A strong feeling of not being pleased or feeling very cross.
- Aggression: Outward display of anger, attacking somebody physically or verbally.

5.2.2 Understanding Own Anger

1 Title: Understanding Own Anger

2 Aims:

- This unit will help students to identify what makes them feel angry and what makes their anger turn into aggression.

3 Learning objectives:

- Recognise aggressive reactions
- Understand the consequences of aggression

4 Content of the scenarios:

- **Recognise aggressive reactions:**

Symptoms of anger building up to aggression include:

- Feeling your heart beat faster
- Tensed muscles
- Clenched fists
- Bulging eyes
- Face going red.
- Swearing, shouting and saying rude things

- **Understand the consequences of aggression:**

- Sometimes these aggressive feelings get so bad it makes people become violent
- Violence can lead to people getting seriously hurt or killed

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- Violence can lead to a criminal conviction and a prison sentence
- Being violent can damage your relationships with friends and family

5 Teaching strategies

- Use of picture cards and news cuttings
- Simulation of situations
- Role play

6 Summary

Students should through picture cards, simulations and role play be able to identify their own reactions and reactions of others.

7 Glossary

- Violence: Attacking somebody or something with force, deliberately trying to hurt or damage them.

5.2.3 Managing Anger and Aggression

1 Title: Managing Anger and Aggression

2 Aims:

- This unit will help students to develop positive strategies to managing their own anger and aggression and to understand how to manage them in other people.

3 Learning objectives:

- Students to be able to identify strategies to manage your own aggression.
- Students to be able to identify strategies to cope with aggression in others.

4 Content of the scenarios:

- **To manage own aggression (possible situations and activities):**
 - Relaxing own shoulders
 - Taking deep breaths to slow down the heart beat
 - Counting to 10 to give you time to think
 - Walking away and doing something else you enjoy
 - Find a way to burn off that energy that won't hurt anybody else – punch a pillow not another person

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- Practice saying no when the other person is pushing you to do something you don't want to do.
- **To manage the aggression of another person:**
 - Find out what you want to happen
 - Important to do something before things get too bad
 - People who are trying to help of stop a fight or argument have to keep their own opinions to themselves

5 Teaching strategies

- Picture game consisting of aggression triggers
- Role play of containment of own aggression tactics

6 Summary

A developing understanding of own triggers should enable students to plan strategies for aggression.

7 Glossary

- N/A

5.2.4 Understanding Stress

1 Title: Understanding Stress

2 Aims:

- This unit will help students to understand the causes and results of stress.

3 Learning objectives:

- Recognition of situations and conditions that trigger problems and stress.
- Understanding that some stress can be helpful in some situations.
- Recognition of typical reactions to problems and stress.
- Understanding of the consequences of allowing stress to build up.

4 Content of the scenarios:

- **Recognise situations and conditions that trigger problems and stress**

Stress is the worked up feeling students get when things are happening to them or they are asked to do things that challenge them in a bad way or good way.

Things that stress people in a bad way include:

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- Fear of failure
- Confrontation
- Peer Pressure
- Bullying
- Family problems
- Being Scared

- **Understand that some stress can be helpful in some situations**

Things that stress us in a good way include:

- Competitions, e.g. sport, quiz, team games
- Be given a challenge, e.g., job interviews
- Challenges that may push us to do better

- **Recognise typical reactions to problems and stress**

Reactions to problems and stress include:

- Increased heart rate
- Tensed muscles
- Sweaty palms
- Butterflies in stomach
- Faster breathing
- Feelings of anger
- Frustration and loss of control
- Not sleeping very well
- Not eating properly
- Hurting yourself
- Not talking to others
- Not feeling like doing anything
- Feeling tired all the time
- Feeling ill

- **Understand the consequences of allowing stress to build up**

Allowing negative stress to build up can cause

- Physical illness
- Mental illness

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- Problems with work
- Problems with relationships

5 Teaching strategies

- Identification of personal stress triggers.
- Stress scenarios.
- Picture cards for recognition of stress and its factors.

6 Summary

Through identification of personal stress triggers implemented in scenarios which are presenting stress situations or through visualisation of picture cards for recognition of stress the students will understand how to deal with individual levels of stress. They will be able to identify their own and others' reactions to stress. By these means, strategies implemented through scenarios can be developed to give some help to cope with situations as they arise.

7 Glossary

- **Stress:** something physical, mental, or emotional that causes bodily or mental tension.
- **Symptoms:** something you experience and notice physically or mentally as a result of an illness or mental state.

5.2.5 Responding to Peer Pressure, Bullying and Abuse

1 Title: Responding to Peer Pressure, Bullying and Abuse

2 Aims:

- This unit will help students to recognise when others are putting pressure on them to do the wrong thing or when they are being bullied or abused and to respond appropriately.

3 Learning objectives:

- To understand the meaning of "peer pressure", "bullying" and "abuse" and be able to recognise them.
- To understand the effects of peer pressure, bullying and abuse.
- To develop strategies for responding appropriately to peer pressure, bullying and abuse.

4 Content of the scenarios:

- **To understand the meaning of “peer pressure”, bullying and abuse and be able to recognise them**
 - Peers are people around the age of the students, who might go to school or college with, or hang out with.
 - The peers might look out, keep the student out of trouble, or even lead the student into trouble.
 - If the peers try to make the student to do something against his/her will or better judgement, this is called “peer pressure”.
 - When someone deliberately threatens, frightens, abuses or hurts another person repeatedly this is called bullying.
 - Abuse is a pattern of behaviour in which physical violence and/or emotional pressure is used to gain or maintain power or control in a relationship.
- **To understand the effects of peer pressure**
 - Being made to do something against your will can make you feel bad about yourself
 - It can get you and them into trouble
 - It can spoil your friendship
 - It can make you lose respect for each other
- **To develop strategies for responding appropriately to peer pressure**
 - It will take some courage to do the right thing if the student thinks it might make him/her look silly in front of their friends.
 - To ask the students to think about what they might be able to say to a friend and make them to do something they didn't want to
 - To point out the consequences of doing that thing
 - To try and get to do something else
 - To tell peers that s/he doesn't feel comfortable
 - To tell peers that s/he feels bullied and remind peers that friends should be supportive not bullying
 - If the student has being bullied or abused how s/he should report it
 - If the student feels that a friend wants him/her to do something bad or wrong s/he could tell a responsible adult in confidence

5 Teaching strategies

- Examples of peer pressure / bullying
- Reasoning on the consequences of peer pressure
- Role play situations to highlight differences in peer group pressure

6 Summary

Through discussion and sharing of examples and ideas, students will learn to recognise peer pressure, bullying or abuse and be able to develop strategies to report or manage it.

7 Glossary

- **Peer:** Your peers are people around your age, who might go to school or college with, or hang out with.
- **Peer Pressure:** social pressure on somebody to adopt a type of behaviour, dress, or attitude in order to be accepted as part of a group.
- **Bullying:** When someone deliberately threatens, frightens abuses or hurts another person.
- **Abuse:** is a pattern of behaviour in which physical violence and/or emotional pressure is used to gain or maintain power or control in a relationship.
- **Consequences:** Something that logically or naturally follows as a result of an action or condition.

5.3 Time keeping (management)

5.3.1 Time keeping

1 Title: Time Keeping

2 Aims:

- This unit will help students to understand the importance of good timekeeping and recognize the consequences of being out of the time frame for a particular activity.

3 Learning objectives:

- Understand the importance of planning own time.
- Recognise the activities that are needed to prepare for going out to school.

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- Learn how to work out how much time s/he needs to allow from getting out of bed to leaving to school and for all the activities that need to be done during the school day.
- Understand the consequences of not planning the time.
- Understand the importance of time keeping at school and what is involved in good time keeping.
- Learn how to develop basic time keeping strategies.

4 Content of the scenarios:

- **Understand the importance of planning the time**
 - This means being ready to start school day at the right time and not just turning up at this time. For example, leave enough time before s/he is due to start school classes to get ready to leave for the school premises.
 - The student should work out how many things s/he has to do before s/he is ready to leave for school and how long each activity takes.
 - The student needs to know what time s/he has to go out to catch a bus or train and how long this journey will take.
- **Learn how to work out how much time you need to allow from getting out of bed to leaving to work and for all the activities that need to be done in between**
- **Understand the consequences of not planning the time**
 - Might miss the bus or train if s/he doesn't leave enough time
 - S/he might be late for school
- **Learn how to develop basic time keeping strategies**
 - Choosing to do some things in advance e.g. ironing and laying out clothes the night before
 - How to calculate and remember the time you need to take
 - Leaving reminders set up
 - How to remember everything needed for each day

5 Teaching strategies

- Simulations of time management activities before leaving for school.
- Clock to show how quickly time mounts up.
- Looking at bus/train timetables to time journeys.

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- Planning time keeping at work using timetables.
- Recapping basic strategies for time keeping and work related issues.

6 Summary

The student should be able to identify how to plan time keeping and develop skills to think ahead for planning though out working day.

7 Glossary

- **Strategies:** An action plan for achieving a goal.

5.4 Team working

5.4.1 Working with peers

1 Title: Working with peers

2 Aims:

- To enable and stimulate student to work and cooperate as part of a team.

3 Learning objectives:

- Team building.
- To establish good working relationships and environment.

4 Content of the scenarios:

- **Working (interacting) with peers**
 - Understanding the importance to cooperate with peers during lessons and for other creative ideas as part of students clubs etc.
 - Demonstration of possible situations of collaboration
 - Demonstration of challenges in communication while working in a team
- **Working (interacting) with teachers, resource tutors etc.**
 - Understanding the importance to follow the instructions by the teacher (resource tutor etc.) for a group exercise or group activity
 - Demonstration of possible situations of given instructions by the teacher
 - Demonstration of different types of teacher’s behavior

Overall the following points for a good team player could be included:

A good team player consists of the following characteristics:

- Works toward the understood goals of the team

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- Contributes to an informal, comfortable, and tension-free work environment
- Enthusiasm about working with the team
- Follows through on commitment
- Takes pride in the team’s work
- Shows interest in other team members’ achievements
- Readily accepts feedback on performance
- Encourages others to achieve at high levels
- Stay focused on team tasks
- Openly communicates with others in the group
- Sensitiveness to the feelings of other group members
- Ability to resolve conflict effectively
- Eager to try new approaches

5 Teaching strategies:

- The student should comment the reactions and the scenes in the demonstrations while gaming.
- The student should discuss with the teacher the behavior of the peers while cooperating.
- The student should reflect on how the challenges in the team work could be overcome.

6 Summary

This unit outlines illustrative approaches on team building and collaboration with peers and teachers (educational staff) in the school environment. The student will receive demonstrations and tips for good interaction and cooperation.

7 Glossary

- **Team work** - In the context of school environment the term refers to students working together, often on an assignment or an activity. Group work is the more neutral term, whereas teamwork implies something about how the students are working together.

5.4.2 Commitment during team work

1 Title: Commitment during team work

2 Aims:

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- This unit will help student to recognize the importance of commitment and understand how to demonstrate it at school.

3 Learning objectives:

- To understand what is meant by the term “commitment”.
- To recognize the importance of demonstrating commitment at school.
- To demonstrate an understanding of how to show commitment at school.
- To understand the consequences of appearing to be lacking in commitment at school.

4 Content of the scenarios:

- **To understand what is meant by the term “commitment”?**

The teachers and educational staff are expecting students to show commitment during different activities at school.

- Commitment to the school work is the strength of the bond between the student and his/her peers and teachers
- Defined by a sense of belonging
- Demonstrated by dedication, hard work and enthusiasm
- A belief in the values of the school group activities

- **To recognize the importance of demonstrating commitment at school**

The scenario should point the benefits of doing this as to:

- Make him/her feel good about school activities
- Help him/her to fit in
- Increase his/her chances of inclusion in the group school activities
- Gain the respect of his/her peers

- **To demonstrate an understanding of how to show commitment at school?**

The scenario should implement situations to show commitment by:

- always turning up on time,
- working hard,
- being enthusiastic about the school activity
- good team work among peers at school
- A willingness to learn new skills.
- Talking positively to other peers about the school activity

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- **To understand the consequences of appearing to be lacking in commitment at school**

The scenario should demonstrate that if the student appears to lack commitment s/he may:

- Receive low scores
- His/her peers may neglect him/her from future team work
- S/he may become unpopular among peers

5 Teaching strategies

- Role play-team work situation linked to different learning domains.
- Discussion to develop understanding of concepts.
- Demonstrations of situations to show commitment and about consequences in case of lack of commitment

6 Summary

Demonstrations and role play activities implemented in the game based scenario will give students the opportunity to practice good skills for working relationships.

7 Glossary

- **Commitment:** the bond of a student, the strength of which depends on the degree of his/her involvement and belief in the values of the school cooperation.

5.4.3 Targets and deadlines

1 Title: Targets and Deadlines

2 Aims:

- This unit will help the student to know what a target is and how to set targets and deadlines.

3 Learning objectives:

- To understand the importance of setting targets.
- To demonstrate the process of target setting.
- To demonstrate an understanding of developing a simple action plan to meet targets.
- To demonstrate an ability to prepare a timed workplan.
- To demonstrate an understanding of how to review own progress.

4 Content of the scenarios:

- **To understand the importance of setting targets**
 - Simulations of working to targets and working without targets
 - Why we need targets
- **To demonstrate an understanding of developing an action plan to meet targets**
 - What is a simple action planning
 - Examples action plans
 - How to write a simple action plan
- **To demonstrate an ability to write a timed workplan**
 - Realistic time scales
 - How to write a workplan
- **To demonstrate an understanding of how to review the progress**
 - Recording progress against a plan
 - Reviewing your plan

5 Teaching strategies

- Demonstration of time planning
- A scenario based on individual target planning with understanding of deadline and how to monitor time revision and evaluation of process to be presented.

6 Summary

Through exploration of target planning, evaluation and review process, students can experience how to plan time and manage workload to meet deadline effectively.

7 Glossary

- N/A

5.5 Communication

5.5.1 Importance of listening

1. **Title:** Importance of listening
2. **Aims**

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- This unit will improve the listening skills of the student. Not listening creates various difficulties that affect students' performance, problem solving, and interactions with others (peers and teaching staff).

3. Learning objectives:

- To realise the importance of listening.
- To understand the effects of not listening.
- To understand the barriers to listening.
- To understand the effects caused by not listening.
- To overcome barriers in everyday listening.

4. Content of the scenarios:

- **To describe what good listener means:**
 - I maintain an eye contact with the speaker
 - I ask clarifying questions.
 - I show concern, noting the feelings that the speaker feels.
 - I retell or paraphrase the speaker's words to show that I have understood correctly.
 - I seek first to understand, then to be understood.
 - I am ready to control my feelings.
 - I respond with a smile, nod, and frown or touch when necessary.
 - I pay special attention to the situation and do not distract myself.
 - I react responsibly to what I hear.
 - I stick to the topic.
- **To describe/simulate what bad listener means:**
 - I often interrupt the speaker
 - I rush to conclusions.
 - I finish the speaker's sentences.
 - I change the subject without a notice.
 - I make my conclusions before I have heard everything.
 - I am not fully focussed.

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- I do not give any reply.
- I am anxious.
- I instantly become defensive.
- I think over my answer until the other person speaks.

5. Teaching strategies

- Simulation of situations which are presenting good and bad listening behaviour
- Provision of feedback by the game
- Reflection between the student and the teacher/trainer

6. Summary

Through the simulation of good and bad listening behaviours and selection of reactions which are applicable to different situation the student will improve his/her listening skills and in addition will reflect on his/her own experience so far.

7. Glossary

- **Active listening** - That is fully concentrating on what is being said rather than just passively 'hearing' the message of the speaker.
- **Assumptions** - you are busy thinking about what the other person thinks and feels: "She wants to come with us, but I think she's tired and wants to be alone";
- **Reflections on your own answer** - while the person you are talking to the person you are talking to speaks;
- **Selective listening** – you listen to some things and deliberately miss a lot of things - especially negative, critical, unpleasant, threatening;
- **Criticizing/labelling** - if you think the other person is stupid, incompetent, unreliable, you stop listening and react mechanically;
- **Dreaminess /distraction** - other's speech triggers associations related to your past experience and events, you return to them and not listen to the person you are talking to;
- **Association** - the person you are talking to 's statement awakens associations that link what is shared by them with your experience - before they finish you start telling your story, what you have done and experienced;

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- **Advice/problem solving** - even before the other person has finished speaking, you have an idea and suggestions what to do and you stop listening;
- **Disputes and disagreements** - even before the other person has completed their statement, you disagree in as many ways as possible - this can be belittling, sarcastic remarks.
- **Highlighting of your own righteousness** – you try to be necessarily righteous and this makes you unconditional, accusatory, you do not accept the opponent's opinion; you want to find contradictions in the explanations, arguments, and evidence in order to gain an advantage;
- **Redirecting the conversation to another topic** - the boredom and frustration you feel can push to change of the subject or you can start answering not seriously;
- **Agreeing** – in order to remain calm or to keep the image of a kind and supportive person you agree with everything.

5.5.2 How to distinguish emotions?

1. **Title:** How to distinguish emotions

2. **Aims:**

- This unit will help the student better to understand the expression of own emotions and those expressed by peers and other people in the society. It will focus on differentiation of emotions from thoughts, using the appropriate emotional vocabulary that allows to precisely and clearly expressing what s/he feels.

3. **Learning objectives:**

- To recognise the difference between emotions and thoughts.
- To recognise the difference between thoughts and feelings that others have for me.
- To experience positive emotions of recreation.
- To develop the ability to express emotions.

4. **Content of the scenarios:**

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- **To distinguish thoughts from feelings** – it is not so easy. In everyday language the word "feel" often denotes things that are not related to emotions "I feel that the decision I made is not very good" – in this case the word feel actually means "think" . If the word "feel" is followed by words such as like, as, or words denoting people ... it certainly does not reflect distinct feelings "I feel like a fool, I feel that my parents are responsible ... "
- **To distinguish what s/he feels from what s/he thinks about himself/herself** – our evaluation is not equal to emotions that we feel for ourselves "I feel I am not good as a student" is different from "I feel concerned about my achievements as a student ";
- **To differentiate own feelings from the way s/he believes others react and think for him/her** - "I feel ignored" does not express personal experience, but rather personal understanding of the action of others towards him/her, and for example the feeling hurt remains unexpressed.

5. Teaching strategies

- Demonstrations of different facial emotions (angered, bored, anxious, confused, disappointed, disrespected, scared, valued, capable, calm, confident, joyous, excited etc.). Experienced emotions, needs and expectations, especially in situations where others show thoughtlessness, stubbornness, arrogance, and selfishness, can be expressed either by I-messages or through you-messages.
- Presentation of narrative where the student could differentiate his/her feelings from the way s/he believes others react and think for him/her.

6. Summary

This unit will help the student to understand better the expression of emotions. It will suggest differentiation of emotions from thoughts, using the appropriate emotional vocabulary that allows to precisely and clearly expressing what we feel.

7. Glossary

- **Emotional vocabulary** - Verbal and non-verbal expression of emotions is a prerequisite for effective communication; it shows others how we experience different situations and what our perspective is.

5.6 Improving own learning

5.6.1 Identifying your learning style

1 **Title:** Identifying your learning style

2 **Aims:**

- This unit will help the student to decide on his/her own best way of learning something. S/he will learn how to improve on how well s/he is doing the learning activities.

3 **Learning objectives:**

- Demonstrate knowledge of the different learning styles.
- Demonstrate an understanding of visual learning.
- Demonstrate an understanding of auditory learning.
- Demonstrate an understanding of kinaesthetic learning.
- Demonstrate that the student can use different learning methods to improve his/her progress.

4 **Content of the scenarios:**

• **Demonstrate knowledge of the different learning styles**

There are different ways of learning something – for example:

- By reading about it
- To learn from visual aids (e.g. pictures or a DVD or computer game etc.)
- By listening to someone tell him/her how to do something
- By trying different ways of doing something
- When s/he needs to learn something new this scenario will help him/her to know that there are different ways of learning and to reflect on which way will work best for him/her

• **Demonstrate an understanding of visual learning**

- What is visual learning?
- Simulation with visual learning method

• **Demonstrate an understanding of auditory learning**

- What is auditory learning?

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- Simulation with auditory learning method
- **Demonstrate an understanding of kinaesthetic learning**
 - What is kinaesthetic learning?
 - Simulation with kinaesthetic learning method

S/he can include this into the simple action plan to help him/her to meet own targets. If one way of learning does not seem to be working well and s/he thinks that could do better than s/he can change his/her own way of learning to help improving his/her performance.

5 Teaching strategies

- A creation of a check list `How I learn best?` so the student can establish how as individual s/he can apply skills to school work to meet targets and deadlines more effectively.
- Simulations to experience different ways of learning to help the student internal process how s/he learn best to apply it to own learning.

6 Summary

By experimentation/simulation the student should be able to gain understanding on how s/he can identify which learning style works best and how to use other resources to develop other ways of learning new skills.

7 Glossary

- **Visual learning:** learning by seeing.
- **Auditory learning:** learning by listening.
- **Kinaesthetic learning:** learning by doing.

5.6.2 Reviewing your learning progress

1 Title: Reviewing your learning progress

2 Aims:

- This unit will help the student to judge how s/he is doing in meeting his learning targets and how to do things better.

3 Learning objectives:

- Demonstration of what you have learned and how you learned it.

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- Understanding how to judge what has gone well and what has gone less well.
- Understanding how to make changes to help him/her to perform better.

4 Content of the scenarios:

- **Demonstrate what you have learned and how you learned it**
 - It will help the student to meet his/her learning targets and will improve his/her performance. This will involve reflection, careful and honest self-judgement about how well s/he is doing and what s/he has achieved.
 - Reviewing performance on regular base
- **Understand how to judge what has gone well and what has gone less well**
 - Measuring success
 - Being objective
 - Listening to others
- **Understand how to make changes to help you to perform better**
 - Making the decision to do things differently
 - Planning for improvement
 - When to make changes

5 Teaching strategies

- Using simulated target plan (a check list) from activities to explore task/target set and review.
- Reflection and discussion on performance and exchange information, experiences and ideas for improving performance.

6 Summary

The student should be able to evaluate his/her learning performance and review what went well and how to improve for future planning of learning targets.

7 Glossary

- **Being objective:** seeing things as they really are without being influenced by feelings or personal opinions.

5.7 Problem solving

5.7.1 Following rules and instructions

1. **Title:** Following rules and instructions

2. **Aims:**

- This unit will improve students' skills to follow rules and instructions which are supporting each subject at the school curriculum and frequently is the problematic area where the students with learning difficulties discovered obstacles because they were not prepared how to follow the instructions.

3. **Learning objectives:**

- To recognise the process of problem solving and the skills those are engaged.
- To achieve an understanding of the need to follow rules and instructions.
- To increase the sensitivity to the sequence of what is being done and the consequence of what is done.

4. **Content of the scenarios:**

- **To develop sensitivity and understanding of the need to follow different instructions and guideline**
 - Explaining that any behaviour (all we do) has consequences. If you do not follow the rules the consequences can be unpleasant.
 - Demonstration of the examples that if the student will not follow the rules (i.e. discipline in the class room, paying attention what the teacher requested) could have serious consequences towards achieving understanding of the learning content and therefore to further accomplishment of a homework task.

5. **Teaching strategies**

- Presenting different simulation of following and not following rules the student will be able to reflect on them and to understand the possible consequences.
- Learning by observing others will help to increase the level of self-efficiency

6. Summary

The student will be able to understand the importance of following rules and tasks at the school environment. Through demonstration of different peers behaviour towards following and not following rules will increase students' understanding about the possible consequences which such behaviour may cause and how this affect the efficiency of the learning process and especially influencing the percentage of obtaining maximum value from the school education.

7. Glossary

N/A

5.7.2Be creative in problem solving by using the five stage model

1. **Title:** Be creative in problem solving by using the five stage model

2. **Aims:**

- This unit will support the students' reflection and performance towards problem solving process by following a sequence of stages.

3. **Learning objectives:**

- To improve the process of problem solving which involves the three stages: seeking information, generation new knowledge and making decisions.
- To support the decision making process through a sequence of 5 stages which will make student more resilient towards this process.

4. **Content of the scenarios:**

- **How to understand the problem** - It's important that student understands the nature of a problem and its related goals.
- **How to describe the barriers** – The student need to be aware of any barriers or constraints that may be preventing them from achieving their goal. In short, what is creating the problem?
- **Identify various solutions.** After the nature and parameters of a problem are understood, the student will need to select one or more appropriate strategies to help resolve the problem. The student needs to understand that they have many strategies available and that no single strategy will work for all problems.

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Here are some problem-solving possibilities which could be implemented in the scenarios:

- **Create visual images.** Many problem-solvers find it useful to create “mind pictures” of a problem and its potential solutions prior to working on the problem. Mental imaging allows the problem-solvers to map out many dimensions of a problem and “see” it clearly.
- **Guesstimate.** Give the student opportunities to engage in some trial-and-error approaches to problem-solving. It should be understood, however, that this is not a singular approach to problem-solving but rather an attempt to gather some preliminary data.
- **Create a table.** A table is an orderly arrangement of data. When student has opportunities to design and create tables of information, they begin to understand that they can group and organize most data relative to a problem.
- **Use manipulatives.** By moving objects around on a table or desk, the student can develop patterns and organize elements of a problem into recognizable and visually satisfying components.
- **Work backward.** It's frequently helpful for the student to take the data presented at the end of a problem and use a series of computations to arrive at the data presented at the beginning of the problem.
- **Look for a pattern.** Looking for patterns is an important problem-solving strategy because many problems are similar and fall into predictable patterns. A pattern, by definition, is a regular, systematic repetition and may be numerical, visual, or behavioural.
- **Create a systematic list.** Recording information in checklist form is a process used quite frequently to map out a plan of attack for defining and solving problems. Encourage the student to record their ideas in lists to determine regularities, patterns, or similarities between problem elements.

5. Teaching strategies

- Demonstration of the problem based learning concept

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- Simulation of situation where problem solving strategies (visual images, guesstimate, work backward, look for a pattern, creation of systematic list) could be implemented

6. Summary

This unit will improve the problem solving skills of the student. It presupposes that student can take the responsibility for their own learning and can take personal action to solve problems, resolve conflicts, discuss alternatives, and focus on thinking as a vital element of the curriculum. It provides student with opportunities to use his/her newly acquired knowledge in meaningful and real-life activities.

7. Glossary

- **Problem-solving**– it is a process of on-going activity in which we take what we know to discover what we don't know. It involves overcoming obstacles by generating hypotheses, testing those predictions, and arriving at satisfactory solutions.
- **Problem-Based Learning** - (Kiili, 2007). It is based on the experiential learning theory (Kolb,1984) The model describes learning as a cyclic process through direct experience in the game world and a reflection on this experience. The model emphasizes reflective thinking and also makes it clear that reflection may take place in isolation or with collaboration with other people.

6. Initial game product specification

There are four partners in the consortium which are responsible for the development of the serious games (both for desktop and mobile) as following:

- P1 Istanbul Sehir University, Turkey
- P2 Panonian University, Hungary
- P3 University of Maribor, Slovenia
- P7 ACT Creative, Turkey

The information contained within this section is to be used to ensure a common understanding of the intended product delivery. The data contained within this section can also be utilised for the development of a technical glossary as means of ensuring a common understanding of delivery.

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Specification Component	Description
Working title of the game:	(title of the game)
Description (game overview and learning objectives):	Description of the learning context into which it will be used.
Curriculum covered (learning scenarios):	Selection of the specific cognitive competencies which the game covers. (include scenario ID and activity number)
Game structure:	Activity 1 Activity 2 ...
Distinctive features:	Supported platforms: 3D environment: Automation: Interactions: Game map: Text-to-speech: Language support: Control mechanism (buttons, joystick): Individual profile: Online/offline use:
Characters and environment:	Playable characters: Non-playable characters:
Style:	Structure Content customisation Graphics quality
Game narrative:	Description of the game narrative. Audio playback:
Reward mechanism:	Type of reward: Feedback of the game

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