

ISG for competence

Intelligent Serious Games for Social and Cognitive Competence

Scoping Report

Executive summary

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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. The survey

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 IO1 Scoping Report is the first outcome of the project, and aims at identifying context of use data (analysis of target audience characteristics and learning and training needs, tasks, and environments of use) for materials adaptation and development of a suite of serious games for students with learning difficulties.

This was realised through country reports and a consolidated survey among stakeholders and target groups in Turkey, Slovenia, Hungary, Bulgaria and Belgium, resulting in a qualitative and quantitative analysis of findings (national and comparative). Almost 500 individuals contributed to the survey, from a wide range of target groups that were envisaged at the start already by the partnership:

- Professionals involved in education
 - Inclusive education
 - Special education
 - Public teacher (resource teacher, speech therapist, etc.)
 - Private teacher (resource teacher, speech therapist, etc.)
 - Professional working with people with disabilities
 - Educational planning/methodology expert (evaluates the curriculum for schools and suggest changes)
 - Headmaster/principal
- Family of children and youth with
 - (Moderate) learning difficulties (dyslexia, dyscalculia, ...)
 - (Moderate) learning disabilities (ADHD, autism spectrum)
 - Low social skills / deviant (actions or behaviours that violate social norms) behaviour
 - Sensory impairments
- Intermediaries
 - Social services
 - Medical centre/authority
 - Health care organization
 - Social care organization
 - Development agency
- Training centre
 - Mainstream education
 - Inclusive education
 - Special education
- University, department of...:
 - (Special) pedagogy
 - Psychology
 - ICT / gaming / ...
 - Assistive technology

- Policy maker
 - Ministries
 - Educational directorates / inspectorates

For the survey, both an online survey questionnaire in the national language, as well as face-to-face meetings and interviews were used, as required and deemed appropriate to collect the necessary data. The survey reached out to people with disabilities, NGOs, school educators, special education trainers, training providers etc.

The surveys are available via:

- ISG (English) - <https://www.surveymonkey.com/r/ISG-EN>
- ISG (Turkish) - <https://tr.surveymonkey.com/r/ISG-TR>
- ISG (Dutch) - <https://nl.surveymonkey.com/r/ISG-NL>
- ISG (Bulgarian) - <https://www.surveymonkey.com/r/ISG-BG>
- ISG (Slovenian) - <https://www.surveymonkey.com/r/ISG-SL>
- ISG (Hungarian) - <https://www.surveymonkey.com/r/ISG-HU>

2. Main findings

ISG project's survey in the 5 partner countries received feedback from almost 500 respondents, and together with the preparatory country reports allows to set out following conclusions with respect to ISG and its focus on educational games for children with learning disabilities.

- Country reports:
 - The definitions of children & youth with learning problems and difficulties differs among countries in the formal definition sense, but in practice the same target groups are identified, while the degree of inclusive education is considerably different among the countries (e.g. Belgium vs. Bulgaria).
 - Pedagogical methodologies to support the acquisition of social and cognitive competencies are in general very diversified and often dependent on the needs of the specific target groups.
 - There is a strong willingness to introduce games in the teaching environments, but restrictions are mainly due to financial resources for equipment, bureaucratic issues with the process of provision of permission for their implementation in the mainstream classes and the lack of time (already overstretched curriculum). This was also confirmed when identifying learning approaches which support inclusion (serious games, robotic mediated learning, peer support etc.). Approaches are diversified and depend on the teachers' abilities, person centred approach and the available school budget. However, there are games available, and especially when they are freely available like will be the case in ISG, the take up should be possible.
 - The learning challenges which children & youth with learning difficulties face are almost everywhere the same on an educational and social level, with especially basic and key competences skills (on educational level), task management skills, social learning skills, self-presentation skills.
 - The current usage of games is overall still limited. There is for example also a negative correlation between the usage of games and the size of the schools (mentioned in Belgium), the bigger the school the less educative games are used. Only the process of including educational games in the curriculum can ensure that the use of educational games is integrated in each school. Currently, this is done rather ad hoc, especially also considering the available budget of the school/institution.
 - Partners have identified a wide range of existing initiatives that could be relevant to the project, but will require customisation according to the needs of the above mentioned target groups. These will be applied in IO2 and IO3.
- Survey
 - Almost 500 individuals from the identified target groups contributed to the survey which was conducted online, via telephone and face-to-face. The partners succeeded in reaching all target groups.

- A wide range of pedagogical approaches are applied to the different beneficiary groups in all countries, including gaming. While all countries have been signatories to the UN Convention on the Rights of Persons with Disabilities, and thus are obliged to have inclusive education, a problem that was highlighted was that in the classroom environment, all disorders are often mixed together, making a uniform approach impossible, and necessitating an individual approach, which due to lack of time and financial resources becomes a challenge. Affordable yet easy to implement solutions would therefore be welcomed.
- In all countries, the cognitive competencies students should obtain / enhance during their school years (6-18) are identical and should therefore guide the project when defining the games, albeit that they are considered with different levels of importance:
 - Following cognitive competencies scored the highest:
 - Self-esteem and self-confidence
 - Communication
 - Problem solving
 - Concentration
 - Team working
 - Motivation
 - Active listening
 - The following were considered somewhat important:
 - Creative thinking
 - Managing anxiety
 - Time management
 - The least important were considered (however, these competencies are in fact embedded and overarching all other competencies):
 - Decision making
 - Orientation
 - Prioritising
 - Managing resources
- The main barriers that hamper the acquisition / enhancement of cognitive competencies are quite similar, but the degree to which they affect the beneficiaries is quite different. A clear explanation for this difference among countries is not really available due to the lack of information regarding the impact for the particular group of children with learning difficulties. The discrepancies between the different countries indicate different approaches towards the different target groups/beneficiaries, which may also impact the selection of specific games for each country.
- The reasons why existing pedagogical approaches/training materials fail in ensuring a successful acquisition of cognitive competencies are overall the same, and are mostly related to: the non- inclusion of these learning outcomes in the

existing school curricula in the above mentioned countries; lack of financial resources; and the lack of available time; in combination with the fact that customised individual support is mostly not available nor feasible.

- The effectiveness and efficiency of ICT educational tools (serious games /mobile games adjusted to the target groups) to address the gaps is useful, but requires considerable effort on behalf of the trainer / educator. The partnership therefore considers providing “training the trainers” tools which will guide teachers and educators how to implement and use the games. Furthermore, it is obvious that a “one fit for all” approach does not work. Localisation and customisation is required to ensure that ICT educational tools (serious games /mobile games) meet the needs of the target groups.
- In Turkey, Belgium Bulgaria, a majority of the respondents would be interested to participate in the piloting, while in Slovenia a considerable part of the respondents are not interested to participate, while in Hungary a majority is undecided. For this reason, it is expected that the Slovenian and Hungarian partners will need to follow an intensive awareness campaign to ensure they can convince and attract enough piloters to the project.