



Results of the desk research and good practices

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Main providers of adult educational system in partners' countries

- 1) Formal adult education (schools, universities)
- 2) Non-formal adult education (NGOs, centers)
- 3) Continuing vocational training (special trainings at work or national education structures or centers)

Seniors citizens' trainings

- No common framework for adult education and training in all countries but some national policies in the field of adult education are defined by the LLL strategy 2020 -Initiatives and laws exist related to different authorities ministries, authorities, educational institutions etc.)
- Cognitive trainings exist in all partners' countries provided notably by NGOs, rehabilitation centers or daycare centerse

Challenges encountered in adult education system

- Lack of trained staff
- Lack of designed methodology for adult education
- Lack of common policy and strategy adapted to adult education
- Lack of financing

Compilation of 23 good practices regarding cognitive games for seniors:

Countries	Good practices	Types
Belgium	7	Brain training programs online and apps
Bulgaria	3	Brain training apps
Cyprus	4	Memory center, apps, AAL projects
France	3	Brain training apps
Turkey	3	Gerontechnology and research center, projects
Austria	3	Projects, organizations



Main types of good practices

Mobile applications

Brain training programs

Medical or research centers and organizations

Projects, networks and programs



Results of the survey questionnaire

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Io1 – Findings from the survey

Countries	Number of responders
Belgium	96
Bulgaria	102
Cyprus	75
France	104
Turkey	84
Austria	110
TOTAL	571

Demographics

Gender repartition

Countries	Men %	Women %
Belgium	53%	47%
Bulgaria	33,7%	66,3%
Cyprus	40,1%	59,9%
France	36,1%	63,9%
Turkey	53,6%	46,4%
Austria	48%	52%



Demographics

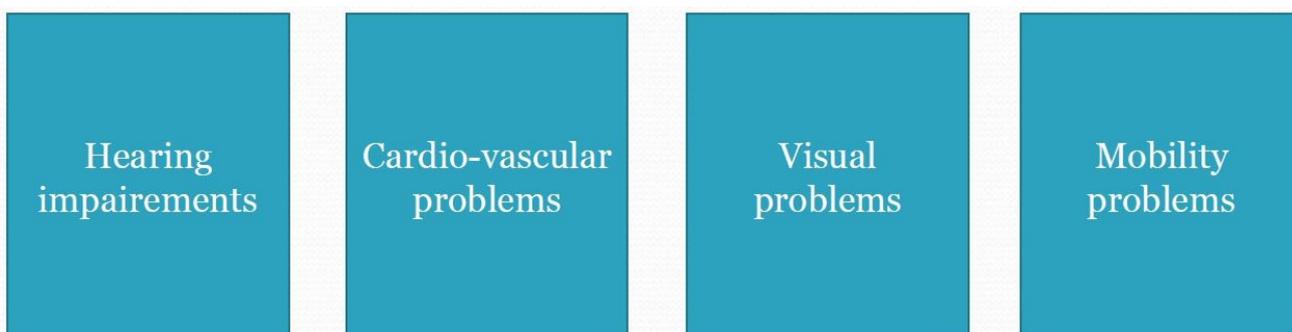
Age

In Bulgaria, Cyprus, Turkey and Austria, the respondents were in majority younger (55-60) than in France and Belgium (71-75).

Countries	Age repartition
Belgium	71-75 (38%) ; 65-70 (23%)
Bulgaria	55-60 (70%)
Cyprus	55-60 (46,9%)
France	71-75 (27,8%)
Turkey	55-60 (28,6%) ; 66-70 (25%)
Austria	55-60 (39%)

Health related challenges linked with age-related problems

Many respondents in partners' countries admitted not having diseases. This is probably due to the relative "young age" of the respondents (55-60). For the rest of the respondents, health related challenges are mainly due to age-related problems such as:





Use of ICT tools

- **Mobile devices:** in most of the countries, people use mobile tools on a daily basis (smartphones or mobile phones) but tablets are not very popular.
- **Computers:** laptops are also very used in Belgium and France unlike other countries. Nevertheless PCs are used in all countries.
- **E-readers:** most of the participants in all countries never used e-readers.

Memory capacities

Countries	Results
Belgium	The half of the responders do not have difficulty to remember things
Bulgaria	More difficulties to remember personal belongings, important dates or to take pills etc.
Cyprus	Around 35% face difficulties with their memory skills
France	60% have sometimes problems to remember things
Turkey	58% declared having problems with their memory
Austria	Around the half of the participants has difficulties with memory

The majority of the responders declares having problems with their memory

Attention capacities

Countries	Results
Belgium	Sometimes problems with the implementation of more than one task at the same time or with the focus on a task while having distractions (except for driving)
Bulgaria	Difficulties in maintaining attention (including for driving)
Cyprus	Problems for maintaining attention, they can be easily distracted (including for driving)
France	Less problems for staying focus, especially during a long period
Turkey	45% have difficulties to stay focus for a long period
Austria	Around the half of the participants have difficulties with attention

The participants declared having real problems for maintaining attention.



Cognitive capacities

Visual perception capacities

Countries	Results
Belgium	more than 60% of the respondents have a good ability to visualise images and to associate scenarios to accomplish a particular task
Bulgaria	no problems for visualizing images or scenarios but problems for interpreting maps, charts and diagrams
Cyprus	almost half of the participants are experiencing visual perception challenges (42.67%)
France	no problem for visualizing images or scenarios while it's more complicated with diagrams and charts
Turkey	no real problems for visualizing or interpret maps but problems with difficulties with diagrams and charts
Austria	around the half of the participants have problems

The respondents declared having problems mainly with interpreting diagrams and charts or sometimes maps.

Processing speed capacities

Countries	Results
Belgium	Respondents do not experience problems with accurate calculation while shopping, neither with adaptation to a new environment
Bulgaria	More than 60% of the respondents have problems to calculation
Cyprus	One third of participants face difficulties related to speed processing
France	One third of the responders had sometimes difficulties to calculate their shopping bill quickly and accurately
Turkey	Difficulties for calculating bills and reacting quickly
Austria	46% have difficulties to calculate shopping bill quickly and accurately, 42% of the participants have difficulties to react quickly

The majority of the respondents said that they encountered sometimes problems with calculation notably for calculating their shopping bills.



Cognitive capacities

Reasoning and planning capacities

Countries	Results
Belgium	around 70% did not experience any problems in terms of forming ideas and organising something for a specific topic
Bulgaria	around half of the respondents sometimes experienced problems on those topics
Cyprus	1/3 experience difficulties with organisation and planning
France	especially difficulties to solve problems
Turkey	no real problems on reasoning and planning things
Austria	?

Some of the respondents admitted having problems for organizing and planning things and sometimes for solving problems.

Sequential processing capacities

Countries	Results
Belgium	More than 60% of them can put things in order when thinking, no problem with planning things in a logical way
Bulgaria	More than 50% of the respondents have difficulties to put things in order. About 1/3 of the respondents have problems when they need to plan activities and events in a logical sequence
Cyprus	Around 23% of participants stated that they face difficulties related on sequential processing
France	1/3 declares having problems on this topic
Turkey	More than the half have sometimes difficulties to put things in order and to plan activities and events
Austria	More than 1/3 has problems on this topic

Sequential processing capacities are problematic for the majority of the respondents and especially for planning things in a logical way.

Needs of ICT tools and Internet

1)Communication: using emails or Skype for communicating with family and friends ((except in Turkey) and consulting or reading newspapers online

2)Administrative purpose: checking bank account or submitting taxes or managing the electronic health record online (except in Bulgaria)

3)Social networks (for less than a half of the respondents)

4)Editing photos or videos is not so important according to the participants

All countries admitted that smartphones are very important and useful in their everyday life!



Io1 – Learning methods

Preferred methods for learning

- 1) **Face-to-face: individually or in groups**
- 2) **Learning from peers and with their family and friends** (especially to learn how to use a smartphone or Internet)
- 3) Around the half of the respondents are ready to learn online since they found it useful. Respondents privileged direct interaction with peers and relatives rather than online contact. Nevertheless they're interested by this new approach.

Io1 – Leisure activities

According to results of the survey, respondents prefer

- 1) **Playing mind games** like Sudoku and crosswords
- 2) **Spending time** with friends or relatives
- 3) **Reading books or watching movies**
- 4) **Other things mentioned:** travelling, playing sports, volunteering

Io1 – Conclusions

- 1) Most of the participants are facing **health-related problems**
- 2) Participants are using smartphones and mobile phones everyday
- 3) **Cognitive problems:** memory, attention, solving problems, calculating bills etc.
- 4) Participants' needs: communicating and being informed through online newspapers or social networks + for administrative tasks
- 5) Learning methods through peers, family and friends and based on a **face-to-face approach**



Io1 – Recommendations

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General recommendations for games

DO	DON'T
Each partner should use similar technological base for developing games	Partners shouldn't use different technological base for developing games
Bright and contrast colors as well as big font are recommended	Small letters, dark or too light colors should be avoided
Images, figures, numbers or colors should be prioritized	Verbal games should be avoided due to the language differences between all countries
Images, figures, numbers or colors should be prioritized without sound	Sound games are not recommended since many people declared having hearing impairments
Face-to-face and human contact should be privileged during the training	Seniors shouldn't be left alone without any support (technical or training)
Games should be playful, enjoyable, and easy to follow	Games shouldn't be assessing or critical
Any completed success or level should be congratulated	Punishments shouldn't be used (words « you failed », « you loose »)

Specific recommendations for games

Visual perception

Recommendations	Why
It is important to give a game that provides some symmetries and geometrical objects to train their visual perception, which also train how to measure distance by eye.	People need to train how to interpret maps, diagrams or charts, etc.
Created games should have minimal and bright colors and high contrast.	Most of countries declared having visual impairments.

Memory

Recommendations	Why
Games that help to remember the location of the things, games for training visual memory to remember the items (find pairs).	Most of seniors declared having problems with remembering where they put their personal belongings (keys, documents).
Games that help to train episodic and short-term memory.	Many respondents admitted having difficulties to remember important dates or future appointments and events or to remember to take pills.



Specific recommendations for games

Attention	
Recommendations	Why
Games that stimulating working attention despite the distractions.	Seniors complained having issues with staying focus on the long period despite the distractions.
Games allowing to focus on or “catch” several objects that appear at the same time.	Troubles while doing two things at the same time.
Games and interface should be very playful and attractive in order to capture their attention.	Seniors would like to cope with distractions.

Reasoning and Planning	
Recommendations	Why
Games should help taking decisions and solving problems. They should help to define a strategy to reach a desired outcome and to reach the solution in the shortest possible time and remember the rules of the exercise.	People complained having sometime issues in solving simple problems.
Games should focus to reason and to form ideas by planning their reactions and moves in the game.	Seniors admitted having problems with planning things and reasoning.

Processing Speed	
Recommendations	Why
The game allows to do speed calculation and to resolve simple Math tasks. Games should include figures and numbers.	Seniors declared having difficulties with calculating bills and reacting quickly.
Games should allow to train the ability to adapt to the changing environments or images and to react accordingly.	Some of the responders said they felt uncomfortable to adapt themselves to the changing environment.



Specific recommendations for games

Sequential Speed	
Recommendations	Why
Games should help putting numbers or symbols in a sequential and logical way.	People admitted having problems to plan the activities step by step in a right order.
Games should be designed that persons could have clear reflections on how to act following the given data and rules of the game.	Some people experienced difficulties while putting things in order when thinking.