



SILWERS

SENIORS ARTIFICIAL INTELLIGENCE LEARNING
- WELL EDUCATED AND RISK SECURE



Co-funded by the
European Union

Skills anticipation workshops report



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of Economics
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Erasmus+ KA220-ADU – Cooperation partnerships in adult education, Project No: **2024-1-IS01-KA220-ADU-000256952**

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The SILWERS Project

The aim of the SILWERS project is to conduct research, both with educators working with older people and with IT and cybersecurity experts, which will form the basis for creating a multimedia platform of resources for training seniors.

The SILWERS project is a step towards building awareness, knowledge and competences of older people in the digital environment.





Project partners

1

University of Economics in Katowice

2

Social Cooperative Enterprise
Drosostalida, Greece

3

Vzdelavaci centrum Hello sro,
Czech Republic

4

ITSecurity ehf, Iceland

5

HASKOLINN A AKUREYRI, Iceland



The international context of the project

The international composition of the SILWERS project team allows for:

- demographic research of various environments of older people,
- engaging field specialists from the international environment,
- building universal, transnational educational solutions.

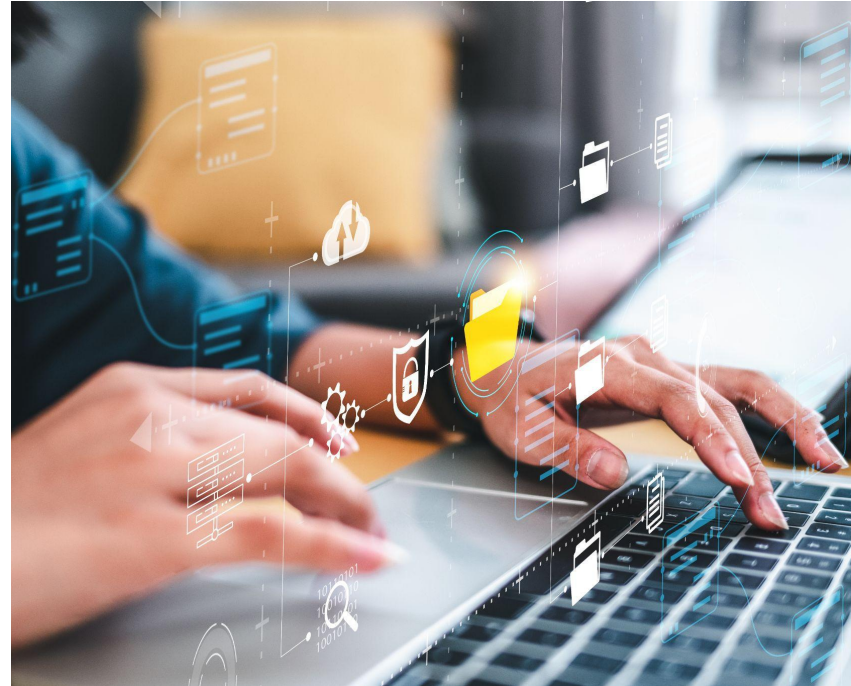


Research - experts

One of the research stages of the SILWERS project was organizing forums for IT and cybersecurity experts in three countries (Poland, Iceland, Czech Republic).

The meetings were attended by representatives of IT companies and specialists in cybersecurity, and data protection.

During the workshops, experts identified key areas related to ICT use by older adults, as well as the risks to which these individuals are exposed.





Seniors on the Internet - risks

Experts unanimously listed cybersecurity threats such as:

- phishing (obtaining personal data through fake messages),
- cyberattacks using deepfakes,
- vulnerability to malware infections,
- theft of personal data,
- extortion.



Conclusions from expert forums

Expert debates, although carried out in various countries, provided insight into a number of common problems among seniors. Experts stated, that:

- the development of technology will lead to the emergence of new threats,
- access to information and educational materials is crucial for building digital awareness among older people,
- technology itself may constitute a barrier (mainly due to the need for constant updating of knowledge) to fully use it,
- regardless of their national origin, seniors are a group particularly vulnerable to the identified risks and threats in the digital environment.



Research - Educators

The second stage of the research, carried out in parallel, involved contact with educators working with older people, meetings, interviews and collecting data on optimal methods of working with this group of stakeholders.

This study was conducted in each of the countries participating in the project.

The survey was attended by representatives of associations and foundations operating in the education sector, as well as public sector employees, involved in educational activities for the elderly.





Key questions in the study

In the interviews with educators, we asked primarily about:

- the best methods in teaching seniors,
- examples of the length and type of educational activities used in the education of seniors,
- does age difference affect the learning process,
- ways to motivate seniors to exchange experiences with their peers,
- using examples from everyday life (case studies) when teaching seniors,
- a way to obtain feedback from the seniors being taught,
- identifying problems related to artificial intelligence or cybersecurity of older people.



Results - Poland





The best teaching methods

The most frequently indicated methods were activating methods such as: **brainstorming, situational and problem-based methods**. An important role was also assigned to **practical exercises**, which are thematically adapted to the needs of the recipients and take place in small groups.

Respondents emphasized the importance of **classes based on direct interaction**— both with the instructor and other participants, which facilitates better knowledge acquisition. Attention was also paid to practical aspects of education, including **learning skills useful in everyday life**, especially in the area of operating IT tools.

Some of the answers suggested **use of mixed methods**, which helps reduce the problem of focusing attention

In short, the best results, according to respondents, are achieved by **a combination of practical activities with teaching focused on interaction and flexibility in relation to the needs of the group**.



Access to older people

Here, most respondents indicated **Universities of the Third Age** as organizations employing educators.

The role of **non-profit organizations, public sector institutions and associations** in conducting educational activities for this group of stakeholders was also emphasized.



Educational activities

Respondents indicate a wide variety of educational activities used in working with seniors. Short forms were mentioned, such as **videos, practical exercises or brainstorming sessions**, which duration is usually between 5 and 15 minutes. **Group discussions and chats** are also gaining popularity.

Respondents point out the importance of **practical presentations**, e.g., presenting the application interface or discussing websites, where the duration depends on the complexity of the discussed topic. When working with seniors, **activities enabling active participation**, such as performing exercises under supervision, were recommended.

Slightly longer activities include **multimedia lectures with presentations**, were told can last up to an hour. It was emphasized that the selection of the type and length of classes should be flexible and adapted to the pace of work and the group's capabilities.



Age difference in teaching

The survey participants' responses show that the age difference **significantly influences the teaching process**, although not everyone considers it a decisive factor. The most frequently emphasized was the necessity of **adapting the methods and pace of knowledge transfer to individual capabilities** of learners. It has been pointed out that older people absorb information somewhat slower, therefore it is recommended to use repetitions during classes.

Attention was drawn to **the need for individual support**, and also to **the need to adapt vocabulary**. Respondents also appreciate **referring to life experiences and everyday situations**, which facilitate the understanding of new content.

Some of the statements emphasized that it is not the age that is most important, but **features such as motivation, systematicity and willingness to learn of participants**. There was also a view that the key role was played by **individual predispositions**.

The totality of the responses shows that **an effective teaching process requires a flexible approach**, sensitivity to the needs and capabilities of the group, as well as openness to the diversity of life experiences of participants.



Motivation to exchange experiences

The answers show that motivating seniors to exchange experiences with their peers is based primarily on **building a friendly, open atmosphere during classes**. The educators use **open questions**, and also **encourage participation in the discussion**, commenting or reflecting on your own experiences.

Also of great importance of **integration meetings**, informal conversations and spending free time together was stressed. Respondents emphasize that positive examples and **showing the benefits of sharing experience** motivates seniors to be active.

Curiosity, engagement, and the topics covered in the classes are also factors that foster contact within the group, while individual interests help initiate conversation and encourage the exchange of opinions.

In general, effective motivation of seniors requires **an empathetic approach and creating conditions conducive to open, honest communication** between participants.



Using case studies

Respondents definitely **confirm the use of examples from everyday life** (case studies) when teaching seniors, recognizing them as an important element of the educational process.

These examples are used primarily for **illustrating and simplifying more difficult issues**, especially technical or IT ones, making them more understandable to participants.



Feedback

The most common way to get feedback from seniors is **direct conversations, questions and interactions after the lectures** and during class summaries. An important role is played by **individual consultations and group discussions**, which enable the assessment of the level of understanding of the topic and the satisfaction of participants.

Respondents pay attention to **additional questions asked by seniors** as a signal of their interest and engagement in the topic. Participants themselves often provide feedback to the instructors about the classes, informing them whether they found them interesting.

Direct communication and spontaneous statements from seniors are the main source of knowledge for instructors about the level of satisfaction, understanding and needs of participants in educational activities.



Problems related to cybersecurity

Cybersecurity problems are primarily focused on **low awareness and lack of appropriate, understandable education** in this regard. Respondents point out the difficulties in acquiring current knowledge about AI and cybersecurity, resulting from the lack of simple, accessible information and the limited number of social programs and educational campaigns aimed at seniors.

Another significant problem are **psychological barriers**, such as fear of "damaging" the device or lack of confidence in using new technologies. **Rapidly changing technology** makes it even more difficult to keep up with the latest news.

It was also pointed out **no need or possibility of using** from advanced AI solutions, and **low digital competence** makes it difficult for them to fully utilize these tools.

To sum up, the key **the challenges are education tailored to the needs of seniors and support in building self-confidence and digital competences.**



Results - Czech Republic





The best teaching methods

The most effective methods are a **combination of interactivity and a practical approach**, directly related to the everyday life of seniors. **Building an open and safe atmosphere**, where they can freely share experiences and ask questions, for example about online fraud, is important.

Combining explanations with **practical demonstrations and work on computers or phones with the participation of an instructor** helps maintain attention, which typically lasts 20–30 minutes. Visual materials should be legible, with large fonts, simple layout, and Czech subtitles. The pace and content should be adapted to the needs and capabilities of the group.

Project-based and experiential learning experiences are more engaging than traditional lectures. Long, monotonous lectures and participants' technical limitations can be problematic.



Access to older people

Most educators found themselves working with seniors by coincidence e.g. **university projects, internships or experience in social care**, and over time this work became their main occupation.



Educational activities

The ideal length of the workshop is approximately an **hour, divided into short blocks** and breaks. Longer seminars (up to two hours) require breaks and a divided program.

Videos should be short (up to five minutes), and the number of participants should not exceed 10. The classes involve lecture and discussion, **information is dosed in small portions**.



Age difference in teaching

Yes, **elderly** seniors (over 70 years old) need **slower pace, repetitions and frequent breaks**, and also larger ones, **simpler visual materials**.

Younger seniors(55-70) are typically more intellectually agile and better cope with a fast pace and additional tasks. The instructor must find balance in a mixed group while simultaneously supporting all participants.



Motivation to exchange experiences

Supportive, club atmosphere promotes a natural exchange of experiences, especially when seniors participate in activities with friends. **Trust in the educators** helps them open up even to difficult topics they don't want to discuss in their family. **repetition of knowledge, note-taking and positive support.** They also often learn from younger family members.



Using case studies

Yes, they are essential. **Personal stories, current events and real-life examples** arouse interest and help seniors feel safe.

Stories about fraud, working with AI or **experiences of other seniors** - make it easier to share your own observations and learn.



Feedback

Feedback is collected mainly during **informal conversations after classes and short surveys**. Positive individual feedback motivates instructors. Instructors observe the need for repetition and receive reports on participants' achievements, such as their ability to recognize fake news. They also organize **individual consultations to solve technical problems**.



Problems related with cybersecurity

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Another significant problem is **psychological barriers**, such as fear of "damaging" the device or lack of confidence in using new technologies. **Rapidly changing technology** makes it even more difficult to keep up with the latest news.

It was also pointed out **no need or possibility of using** from advanced AI solutions, and **low digital competence** makes it difficult for them to fully utilize these tools.

To sum up, the key **challenges are education tailored to the needs of seniors and support in building self-confidence and digital competence** so that they can safely and effectively use AI-based technologies and protect themselves against cyber threats.



Results - Greece





The best teaching methods

The most effective are **interactive and practical methods**. Seniors learn best when they can try new things on their own with the support of a teacher, rather than listening to long lectures.

Group discussions, demonstrations, expert presentations and step-by-step instructions with numerous repetitions help them feel more confident.

They are also helpful **visual materials, stories and scenarios from everyday life**, which make it easier to understand more difficult topics such as cybersecurity or artificial intelligence.



Access to older people

Access to seniors is mainly through **city programs, community centers and lifelong learning initiatives.**

In Greece, many elderly people are associated with **local associations, cultural clubs or uses social welfare services**, therefore cooperation with local governments and non-governmental organizations is crucial.

It is also very effective **spoken recommendation**, because trust plays a significant role in the decision to participate in training. Their free time and interests must be taken into account—they may have family responsibilities (e.g., caring for grandchildren), be confined to the house in hot weather, or have health problems, making it difficult to predict their involvement in longer programs.



Educational activities

A typical session lasts approximately **30–60 minutes and consists of short activities**. For example, you can show **two-minute film** presenting a typical online scam, then discuss it together and practice recognizing dangerous signals in sample emails.

Combining media, discussion and practice keeps older people engaged and doesn't feel overwhelmed by information overload.



Age difference in teaching

Younger seniors (55-70 years old) are usually more familiar with digital tools and **are more willing to try new solutions**, while older participants (70+) need more time and repetitions.

Age affects **pace of training** and information meetings and **requires more patience and an individual approach to older groups**. It's important to create mixed groups where everyone can naturally support others.



Motivation to exchange experiences

We encourage you to **sharing personal stories** related to the Internet, both positive and negative. When seniors see that others are facing similar difficulties, they feel less isolated and are more willing to talk.

Group exercises, in which they solve tasks together, strengthen trust and make learning more enjoyable.

Inviting guests from the local community— for example, a bank employee, city hall employee, or lawyer — also facilitates sharing experiences and asking questions. However, it's important to stay on topic, as conversations can easily veer off into other threads.



Using case studies

Yes, examples from everyday life are key. We use a **genuine phishing messages, media reports about fraud in Greece, films, short stories, television materials and practical scenarios** (e.g. creating strong passwords, setting up two-factor authentication – although this is difficult).

We encourage seniors to share what they've learned with their families during meals and to highlight new risks. Presenting real-life situations provides a clear context and allows seniors to see the immediate utility of their knowledge, which promotes retention. We also promote **sharing good practices**– e.g. exemplary service at the bank, assistance in the store with new technologies (especially visible in smaller towns).



Feedback

Feedback is mainly provided during **informal conversations** during and after classes. Seniors are asked to repeat exercises, assess their level of understanding, and share any concerns within the group or with their families.

We use simple evaluation tools, e.g. **short surveys or association maps** (they are created by the presenter based on the participants' responses, if they are not in paper form).

The key is **positive support and encouragement**, because seniors often lack self-confidence and need extra motivation.



Problems related with cybersecurity

The main challenges are **Internet frauds** (phishing, deepfakes), **lack of digital skills** and **insufficient support from family**. Seniors are often afraid of new technologies and prefer traditional methods of communication, such as cash over online banking.

Problems with application operation, devices and reluctance to change make it difficult to function in the digital world.

Families typically lack the time or patience to help, which deepens isolation and vulnerability. Education and practical support are essential to overcome these barriers.



Results - Iceland





The best teaching methods

Educators agree that the most effective are **micro-learning, story-based learning, and peer learning**. Classes should be divided into **short**(10–15 minutes),**interactive sessions** with understandable visual materials and **practical demonstrations**.

The importance of building trust and creating a judgment-free environment, where participants can freely ask basic questions was emphasized. The ideal model is blended learning – combining in-person meetings and digital platforms.



Access to older people

Most educators started by **lifelong learning programs** or other courses. Some got involved during social **campaign for digital inclusion**. Many pointed to **motivation stemming from observing the exclusion of seniors** from basic digital services.



Educational activities

Examples include **short, two-minute videos explaining the basics of AI or cybersecurity**, including videos with a deepfake example to show their effectiveness.

There are quizzes and digital security scenarios lasting 5–10 minutes, **group workshops** 30–40 minutes combining discussion with practice and **"Try It Yourself" Labs**, where seniors test voice assistants or online security settings on real devices.

Short videos with subtitles and AI narration improve understanding and accessibility for seniors.



Age difference in teaching

Participants aged **55–70 years old focus on self-development and practical applications of AI** (e.g. banking, health apps). For people **70+ slower pace, repetitions and individual support are key.**

Seniors are often motivated by social aspects—keeping in touch with family or managing their health online. Educators emphasize adaptive learning, where the same topic is presented at different levels of complexity.



Motivation to exchange experiences

Peer sessions are recommended and **digital storytelling exercises**– telling stories about overcoming challenges or using AI in everyday life.

The key is **positive reinforcement and highlighting individual progress**. Sharing stories builds confidence and strengthens group cohesion.



Using case studies

Partners create **materials based on the analysis of real stories** related to online fraud, misuse of data or useful AI tools (e.g. voice translation, health monitoring applications).

Such examples **arouse emotional involvement** and combine the abstract nature of AI with practical experience.



Feedback

Educators distinguish three levels of feedback: **immediate**, oral during practical exercises; **in writing** or digitally through an educational platform focused on encouraging; and **reflection** after 1–2 weeks to consolidate the learning.

Feedback emphasizes progress rather than assessment alone to maintain participants' confidence.



Problems related with cybersecurity

The biggest problem is **fear and lack of understanding**. Seniors often perceive AI as something “mysterious” or “dangerous” and are unaware that they already use AI (e.g., in navigation or recommendations).

Trust and awareness are key in cybersecurity - seniors are **vulnerable to fraud and disinformation due to insufficient knowledge about data privacy and online verification**. Building self-confidence must go hand in hand with technical education to reduce the digital divide.



Summary





How can we help seniors?

Each report highlighted **the need to support seniors in the practical use of new technologies**, especially those related to cybersecurity and artificial intelligence.

It is important to **make it easy for them to recognize threats**, for example, online fraud, and **to build self-confidence** in using digital devices.

Help should be specific and tailored to the everyday needs of seniors– helping with application use, network security and online contacts.



How to motivate?

All reports indicated the importance of **creating an atmosphere of trust and openness**, where seniors can share experiences without fear of judgment.

Motivation increases when participants **feel that their difficulties are understood**, and also through the exchange of real stories and positive examples.

Friendly company, shared activities and **the possibility of active integration with peers** and are a strong incentive to engage.



How to teach?

Teaching methods should be **interactive, practical and divided into short, engaging modules** with frequent repetitions and visual support.

It is necessary **adjusting the pace and level** the complexity of the material to the individual capabilities of the group and the age of the participants.

It is advisable **combining stationary classes with a digital form of learning**. Also important are **projects and practical exercises**, which allow for direct experience and consolidation of knowledge.



**Thank you for your
attention!**

