

# EDUCATION OF SENIORS' EDUCATORS

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### *Abstract*

Because there is increasing number of seniors in the population all around the world, it is very important to provide education for seniors to support their integration into the information society. This paper would like to find answer on question if adult education is different from teaching children. It aims also to provide some basic information about ideas on creating an e-community – virtual centre of people involved in training seniors.

*Keywords:* education of seniors, information society, virtual centre, life-long learning, SEN-NET project

### **Introduction**

Aging of the population and the development of an information society are features of the present-day world. Thanks to higher living standards and better health care, people are able to live much longer. This is currently most apparent in the advanced countries, but according to several studies the percentage of seniors in the population will dramatically increase in developing countries, too. A study of the EU countries published in 2004 predicts that 37.8% of the population will be seniors by 2050. However, another study published by the International Herald Tribune in January 2006 predicts the percentage of people older than 60 years worldwide to be only 21.7% by 2050.

Such an aging population trend can lead to a range of problems. To prevent this and to improve the quality of living of seniors it is necessary to extend the active life of people. This is the main goal of life-long learning, which focuses on specific problems related to educating people throughout their lives. Education of seniors forms a standalone branch of life-long learning because of the special needs of this target group. Teaching elderly people thus requires special training for educators of seniors.

The inherent suspicion of older people toward new things, together with the above-mentioned considerations, motivates many individuals all over the world to focus on educating seniors in ICT. This is one of the reasons for the increasing popularity of ICT courses for seniors in the Czech Republic.

### **Seniors in the information society**

The influence of the information society is still growing, and this leads to new requirements for integrating seniors into this society. By running ICT

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courses for seniors at the University of the Third Age (UTA) at the Czech Technical University in Prague (CTU) we are trying to facilitate their integration.

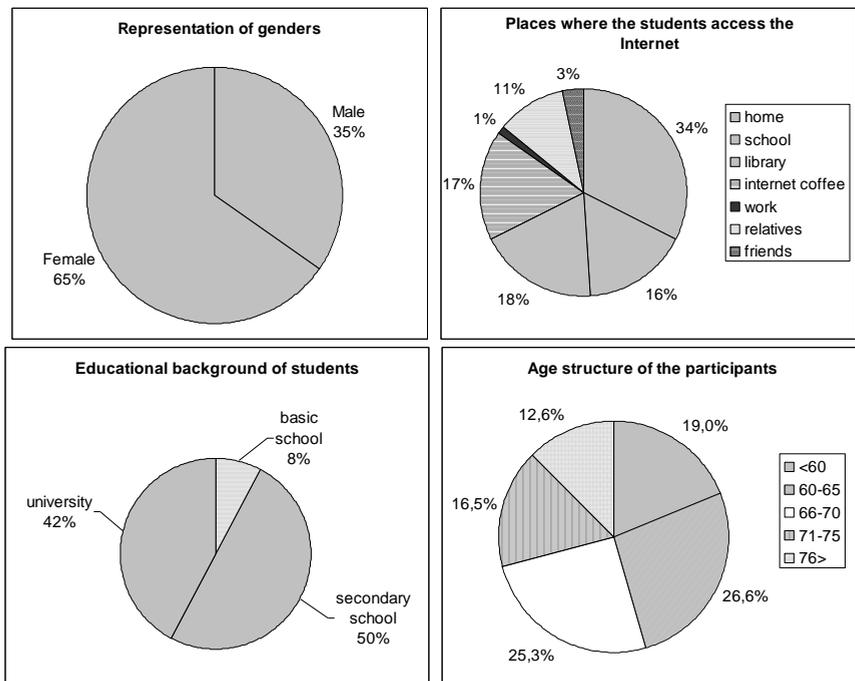


Figure 1. A series of charts presenting the results of various statistical surveys

In order to monitor the incorporation of seniors within the information society and to evaluate the overall quality of our courses, surveys are regularly made. The results from recent years indicate increased interest from females, who form almost 66% of the participants in all ICT courses held at CTU. The actual values of gender representation are depicted in the first chart in Figure 1. The statistics presented by the National Program for Computer Literacy, organized by the Czech Ministry of Information, show very similar results (64.7%). A survey taken at CTU in May 2006 revealed several interesting facts about seniors attending ICT courses at UTA. The number of respondents surveyed was 52. Almost 77% of the respondents answered that they have a computer at home, but only 54% of them had a computer at work. This points to the interest of seniors to learn how to work with ICT, and it also breaks the myth, deeply rooted in Czech society, that computers are not available to average people. A significant number of seniors stated that the main reason for entering the courses is that they want to keep up with their children and especially their grandchildren. A surprising fact was that only 34% of the respondents stated that access to the

Internet in the Czech Republic is unreasonably expensive, which a major change from the previous years was.

The second chart in Figure 1. shows the most frequent places where participants of the ICT courses access the Internet. To further promote their endeavour, it is therefore necessary to provide them with proper training, taking into account their age-related problems (e.g. visual impairments, health problems, limited mobility, etc.), and this also requires specially trained educators of seniors.

The third chart in Figure 1. shows the educational background of the students of the ICT courses at CTU in Prague. The high percentage of seniors with university education is striking.

The fourth chart in Figure 1. presents the age structure of the participants of UTA at CTU in Prague.

### **Seniors as learners**

Different groups of learners are described here by their user's profiles. The user profile contains the information about user and his/her preferences as the user and thus describes a particular learner. The user profile is crucial for personalization because personalization processes must operate always with respect to the user profile.

The user profile can be created implicitly or explicitly. In case that the user profile is created implicitly, the system observes the behaviors of the user and creates the user profile automatically based on his/her behaviors. In case that the profile is created explicitly then the user profile is created by the user himself/herself. Implicit and explicit creation of the user profile can be combined together and thus the user can explicitly redefine the implicitly created profile.

In this paper the profiles of our targeted user groups of ICT education are presented. The profiles should focus on a demographic profile of the learner (age, gender, and socio-economical status) and technology experience. We did survey for all possible target groups and we were looking for differences of profiles to find answer on question what is a difference in learning of those groups. We used questioners for users with the same set of questions. We use flipchart for presentation of the first results of the survey. "Copy" of flipchart results is on Figure 2.

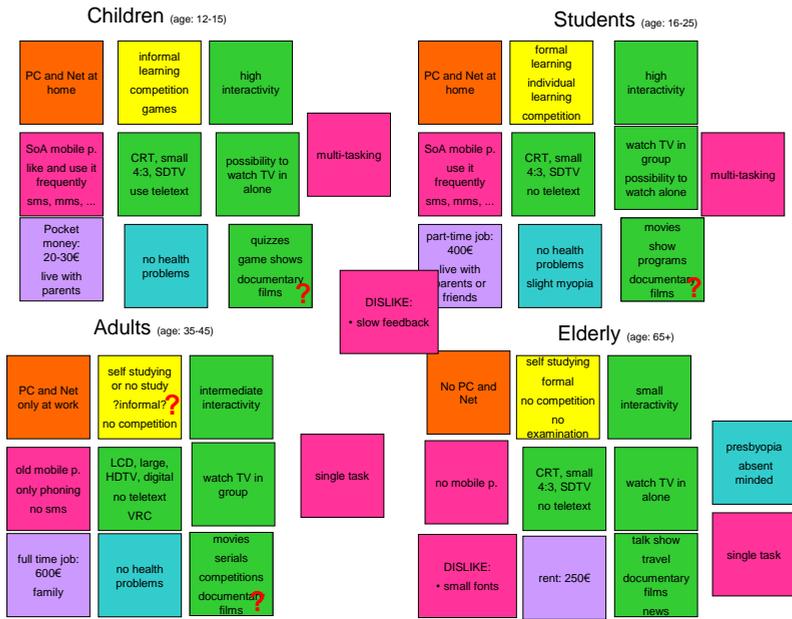


Figure 2. Flipchart with results of users' survey

Based on the user analysis the users were divided into four target groups according to their identical characteristics. The user profiles are as follows:

**Children (age 12 – 15)**

<b>Family and household</b>	Typical member of this target group lives with her/his parents. The parents are in standard financial circumstances. S/he gets 20-30 € of pocket money regularly.
<b>Education</b>	S/he attends elementary school. S/he prefers informal learning in form of competitions and games. S/he has friends in the school and spends lot of time with them. S/he does not attend any extra lessons after school.
<b>Technologies</b>	S/he has her/his own room with standard CRT TV and computer with internet connection. S/he uses the computer mainly for playing games, chatting and searching of information on Internet. S/he has and frequently uses mobile phone, s/he exploits all functionality of the mobile phone (calls, SMS, MMS, WAP, etc.). S/he needs to feel up to date with current state-of-the-art technologies. S/he does not have any problems with controlling electronic devices.
<b>Accessibility issues</b>	S/he is able to follow several tasks in parallel. S/he often watches TV and uses computer or mobile phone

	simultaneously. S/he does not have any perceptual, mental or motor problems which would seriously affect her/his abilities to use electronic devices like PC, TV, mobile phone, etc.
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### Students (age 16 – 25)

<b>Family and household</b>	Typical member of this target group lives with her/his parents or separately with her/his friends. In the last years of study s/he has a part-time job (monthly income is 400 €).
<b>Education</b>	S/he attends high school or university. S/he prefers formal learning (teacher gives a lecture in the classroom, provides printed and electronic courses material; oral and/or written examination). S/he has limited experience with e-learning. S/he prefers individual learning.
<b>Technologies</b>	Her/his room is equipped with standard CRT TV and computer with Internet connection. S/he uses the computer mainly for learning purposes and entertainment. S/he uses Internet every day at least for 2 hours. S/he has and frequently uses mobile phone, s/he exploits all functionality of the mobile phone (calls, SMS, MMS, WAP, etc.). S/he needs to feel up to date with current state-of-the-art technologies. S/he does not have any problems with controlling electronic devices.
<b>Accessibility issues</b>	S/he is able to follow several tasks in parallel. S/he often watches TV and uses computer or mobile phone simultaneously. S/he does not have any mental or motor problems which would seriously affect her/his abilities to use electronic devices like PC, TV, mobile phone, etc. S/he has a minor sight problem (myopia).

### Adults (age 35 – 45)

<b>Family and household</b>	Typical member of this target group lives with her/his family. S/he has a part-time job (month income is 600 €).
<b>Education</b>	S/he has achieved university degree. S/he is self-studying (reads books, watch documentaries, etc.) or not studying at all. S/he does not want to compete with others during the learning process.
<b>Technologies</b>	Her/his room is equipped with large digital LCD TV with high resolution (HDTV). S/he does not have computer and Internet at home. S/he uses computer and

	Internet at work. S/he uses the computer mainly for work purpose. S/he has and frequently uses mobile phone, but for phoning only. The mobile phone is of old model. S/he does not have any serious problems with controlling electronic devices, but feels uncomfortable when using new devices with lot of functionality. Does not like to explore new technologies (do not use SMS, MMS or WAP on her/his mobile phone).
<b>Accessibility issues</b>	S/he is not able to follow several tasks in parallel. During watching TV s/he can not comfortably operate another electronic device (e.g., phone). S/he does not have any mental or motor problems which would seriously affect her/his abilities to use electronic devices like PC, TV, mobile phone, etc. S/he has a minor sight problem (myopia).

### Elderly (age 65+)

<b>Family and household</b>	Typical member of this target group lives alone or with her/his partner. S/he is retired. Her/his monthly income is 250 €.
<b>Education</b>	S/he is self-studying (reads books, watch documentaries, etc.). Though s/he is not subject of any kind of formal education s/he prefers formal learning. S/he is passive and not competitive. S/he does not feel a need to compare her/his knowledge with her/his contemporaries. S/he does not want to be examined and if then anonymously.
<b>Technologies</b>	Her/his room is equipped with standard CRT TV. S/he does not own or use computer or Internet. S/he does not own mobile phone. S/he has problems with controlling more complicated functionality of electronic devices (e.g. tune TV channels).
<b>Accessibility issues</b>	S/he is not able to follow several tasks in parallel. S/he is absent minded. S/he has sight problems (presbyopia) and has two different glasses (one for myopia and one for hyperopia). Therefore s/he dislikes small fonts. S/he is confused when an electronic device has slow feedback on her/his actions.

The comparison of students and seniors user profiles is in Table 1. There is significant difference in income, using ICT, accessibility of computer and Internet. There is also big difference in way of work. Students are able to do more task in parallel, what is impossible for seniors. They have already problems with hearing, vision and they need more time.

	students 16 – 25	elderly 65+
<b>Family and household</b>	this user is part time working with income 400 € per month	this user is retired with income 250 € per month
<b>Education</b>	attends high school or university, no experience with e-learning, no afraid of exams	not working, self studding, is passive, does not want to be examined
<b>Technologies</b>	owns and uses TV, computer, Internet at last 2 hour per day	owns TV, but no computer and Internet, problems with to complicated functionality of electronic devices
<b>Accessibility issues</b>	may follow several tasks in parallel, often watches TV and use computer in one time, no vision and hearing problems	Is not able to follow several tasks in parallel. Problems with vision and hearing, slow feedback, need bigger fonts

Table 1. *Comparison of students and elderly target groups*

### **Teaching of seniors**

Is seniors' education different from teaching children? In many aspects are those educations same, but education of seniors has some specifics. If we will understand those specifics we may improve an adult teaching. Adults have life experience and they are more motivated to learn. They are also motivated different way then children. They are systematic and oriented on context. They have motivation to learn. They have to be recognized. There are even more such aspects and we have to employ them in teaching and learning seniors.

Another question is competences of seniors' educators. The adult learners have to be in link with learner's work, so adult learner may have higher confidence in learning. The learner has to be actively involved in learning. They are also some disadvantages which may influent the learning process of seniors.

Seniors' educator has to know not only that what we mentioned here, but he has to understand of principles how and why adults are learning. The social changes that have accelerated in recent years make seniors' education necessary. Such education needs to be implemented efficiently and in a way that is satisfactory for seniors and also for their educators. A good teacher is a continual learner. He must be able to learn from their environment. More importantly, however, he must be able to learn from his learners. This involves constantly trying to understand how learners react to, interpret and create meaning from different activities.

### Virtual centre

The Virtual Centre for seniors' educators is one way to support life-long learning for seniors. E-learning is another way to improve the quality of this education.

European project SEN-NET tried to support seniors' education in ICT skills and it help to create a network of seniors' educators. The activities of the project aim to facilitate the integration of seniors into the information society. The created virtual centre serves to educators of seniors to form a virtual community and support their collaboration in the preliminary stages of development. The main functionalities of the centre are presented in 3, in the form of a mind map.

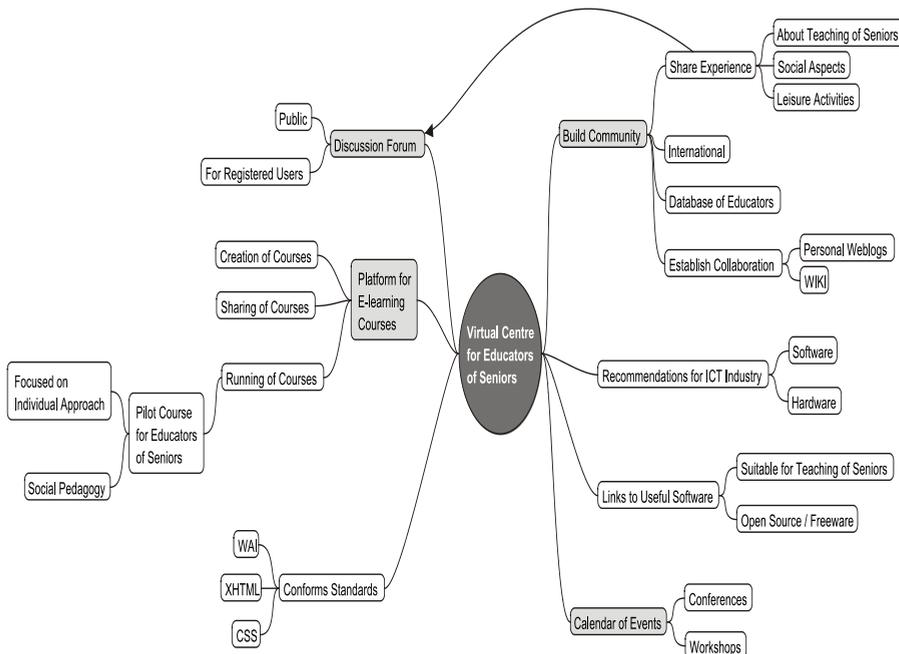


Figure 3. A mind map presenting the Virtual Centre for Educators of Seniors

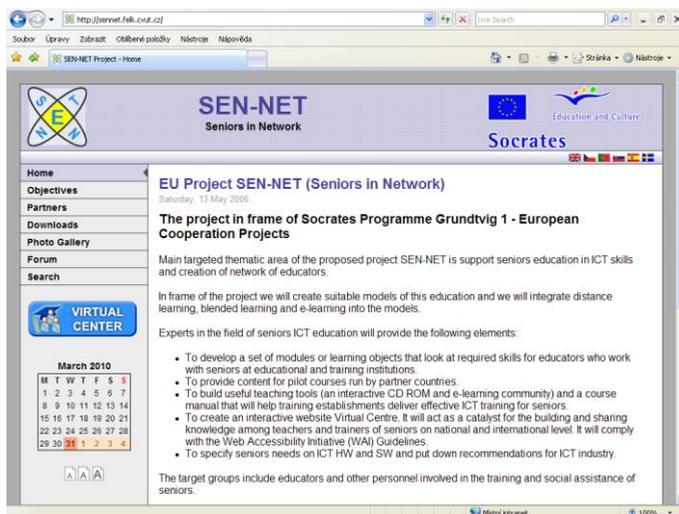


Figure 4. Main page of Virtual centre for seniors' educators

The virtual centre for seniors' education was created in frame of the project SEN-NET in 2008. You may find it on <http://sennet.felk.cvut.cz> and it is used by educators from Portugal, Spain, UK, Sweden, Czech Republic and Slovakia. Screen copy of main web page of the project SEN-NET with Virtual centre is in Figure 4.

## Conclusion

We developed structures, models, methodology and materials for the ICT education of seniors' educators and senior-learners. The network of educators was created in frame of the project SEN-NET. The useful teaching tools and resources to support training establishments in delivering effective ICT training for seniors using blended and e-learning methodology and technology was building.

The rapid advances in new technologies that we experience every day inevitably cause people who do not follow recent developments to become isolated from mainstream society. Especially the enhancements in communication technologies are becoming a barrier that is very difficult for elderly people to overcome. It is difficult to integrate older people into the information society, and without help from society it will be almost impossible. Without proper training, seniors are usually unable to operate new devices or use them efficiently.

### *Acknowledgement.*

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