



Older Learner Needs and Requirements for Learning with ICT

WP2

INDEX	Fehler! Textmarke nicht definiert.
1. BACKGROUND.....	3
2. MOTIVATION AND FEARS CONCERNING INTERNET USE IN GERMANY WITH FOCUS ON 50PLUS	4
3. LEARNER INTEREST FIELDS.....	9
4. EDUCATIONAL NEEDS AND ORIENTATION OF THE TARGET GROUP 50+	12
5. PEDAGOGICAL APPROACHES	13
5.1. PEDAGOGICAL APPROACHES IN THE PROJECT “GEMEINSAM LERNEN ÜBERS NETZ“	14
5.1.1. SELF-ORGANISED LEARNING AND “LEARNING THROUGH RESEARCH”.....	14
5.1.2. VIRTUAL LEARNING	16
5.1.3. VIRTUAL LEARNING COMMUNITIES	17
5.2. VIRTUAL COURSE TYPES TESTED IN THE PROJECT “GEMEINSAMLERNEN ÜBERS NETZ”	17
6. MODERATION	18
7. ACCESSIBILITY / BARRIER FREEDOM	18
7.1. WEB USABILITY	19
7.2. BARRIER FREEDOM.....	20
8. CRITERIA FOR COURSE DESIGN	21
9. CRITERIA OF GOOD PRACTICE FOR EDUCATION ACTIVITIES USING THE ICT	22

1. Background

The emergence of the knowledge society implies that every citizen must be digitally literate in order to be on a better footing in terms of equal opportunities in a world in which digital functions are proliferating (Merchant 2004). In the knowledge society, those who can use the new media are more advantaged than those who do not. While the possession of basic ICT skills is now taken for granted in the younger age groups, it is often the starting point for the older ones, especially those who did not use the new media in their profession. In today's society these persons are disadvantaged.

Although the numbers of the older Internet users grows, in April/May 2006, already 59,5% of the population in Germany used the Internet at least occasionally, the number of older people not-using the internet (offliners) is still very large. In Germany the percentage of offliners in 2006 was 39% for 50-59 year olds, 64% for those aged 60 to 69% and 87% for those 70+. Similar situation exists in Austria. In Lithuania, the Internet/email usage for people over 56 years old is only 6.2% (the majority of them in Vilnius – 18.1%)¹. Also in Spain, where only 3% of the elderly have some experience with the Internet², and nearly 90% of young people between 15 and 24 years old have used the Internet at some point³, the difference in usage of the Internet between older and younger people is very large.

The digital divides are determined not only by age, but also by gender aspects, educational backgrounds and income levels and also geographical locations. In Germany 78% of the offliners are older than 50 and only 7% have Abitur (GCEs) or academic qualifications. 63% of the offliners have a monthly income of 2000 EUR or less, 56% are retired, the share of women amongst the offliners is with 61% higher than average. (Special analysis of the (N)ONLINER Atlas 2006).

For the older learners the new developments mean the need to acquire media literacy, the basic know-how of using the new technical tools for information, communication and exchange, but also digital literacy, which means the possession of knowledge how to

¹ Survey of the market research Company TNS Gallup in May 2005.

² Chapter 6 of the Report related to Activities, attitudes and values
<http://www.imsersomayores.csic.es/documentos/estadisticas/informe-mayores/2004/pdf/tomo-1/opm-tomo1-06cap6.pdf>

³ National Institute for Statistics, survey of *Equipment and Information and Communication Technologies in Household*,
<http://www.ine.es/inebase/cgi/um?M=%2Ft25%2Fp450&O=inebase&N=&L=0>

evaluate the information for accuracy and value to personal needs and how to integrate and to apply the accessed information with an awareness of ethical, social and economic issues.

Furthermore, there are currently not many activities for older adults that concentrate on the provision of digital literacy or the application of the new media for the acquisition of knowledge. The activities are often limited to the transfer of basic ICT skills. Used in this context are often teaching materials and methods not developed especially for the needs of older people. For example the application of peer teaching which has proved to be very effective in this context is very rare⁴.

The development of target group oriented courses and other education activities to familiarise the older people with the use of the ICT or education activities which use the ICT as tools is complex due to the diversity within the age groups in terms of interests, capabilities, physical fitness, life situations, motivation to learn, etc. and to changing age perceptions and focus. The offliner group 50+ is transitional as it is joined by more and more people who have experience with the ICT through their profession. In Germany, various studies were made to analyse and to classify the types of offliners and the reasons for their non-use of the Internet (ARD/ZDF-Online study 2006). Other studies attempt to classify the onliners according to interests. These studies are valuable in terms of indication of general trends, such as in interests or barriers for the various age groups, however, they are not of a special value for the design of ICT based learning activities where the development of specially tailored target group oriented approaches may be preferred that concentrate on current situations and specific learner needs (Die Generation 50+ im Internet⁵). Such approaches may for example integrate findings from andragogy and usability researches.

2. Motivation and fears concerning Internet use in Germany with focus on 50plus

The motivation for older people to get an access to the Internet is a combination of social reasons, the spirit of the times and pressure of the media. The references to the Internet in the media give rise to the feeling that relevant information and know-how can only be found there. Another motive is caused by the change in the opinion about access to relevant information: until 2004 most seniors thought they could get important contents from other media, now those aged 60plus discover more and more the attraction of the web, e.g. websites that provide advice and information for leisure and health, websites of seniors'

⁴ Interim results from the eLearning in Later Life Survey2006, www.elill.net, eLearning Program of the EU

⁵ Netaspect Internet und Marketing, August 2005

networks.

Four of five users aged 50plus use PCs they have bought themselves. It is no longer true that their PCs are the old ones of their children. Their technical equipment is of high quality (74% of the PCs used by 60plus have DVD-drives, 64% have CD-writer drives and 55% DVD-writer drives. There is nearly no difference to PCs of their grand-children.)

There is a difference comparing the use of the Internet between young people (14-19 years) and old people (60 years and older): Older people prefer favourite pages. Some examples of the category "online applications used at least once a week":

- Sending and receiving emails: total population: 78%, 14-19 years: 83 %, 60plus: 67%
- Search engines: 75% / 90% / 62%
- Searching purposefully for special offers: 50% / 38% / 64%
- Just surfing the web: 45% / 64% / 34%
- Home banking: 35% / 11% / 27%
- Download of files: 21% / 27% / 18%
- Forums, newsgroups, chats: 20% / 59% / 6%
- Online auctions: 18% / 16% / 6%
- Online shopping: 12% / 11% / 4%
- Listening audio files: 12% / 32% / 2%
- Computer games: 12% / 31% / 3%
- Listening live radio on the web: 11% / 17% / 4%
- Book and CD-orders: 8% / 9% / 7%
- Watching videos and video files: 7% / 22% / 1%
- Map services: 4% / 5% / 4%
- Searching contacts and partners: 3% / 9% / 1%
- Winning games: 3% / 3% / 1%
- Watching live TV on the web: 2% / 5% / 4%

The Internet stands for news and information. Sites with topical news from Germany and abroad are visited the most (45% frequent or occasional use in 2006, in 2005: 47%), followed by scientific, research and educational information 42% (2005: 44%), leisure time and event information 40% (2005: 44%), topical regional news and information 38% (in 2005: 42%), topical service information (weather, traffic) 37% (in 2005: 43%), cultural information 36% (in 2005: 33%), consumer and advice information 31% (in 2005: 34%), sports information 29% (in 2005: 29%), economic and stock exchange information 21% (in 2005: 24%), entertainment offers (comedy, games) 7% (in 2005: 10%). Most results are lower than in

2005, it is supposed that the growth of offers (not only contents but web applications, multimedia applications, web 2.0-applications) is responsible for this development.

48% of the Internet users have got broadband access (+12% in comparison with 2005), 50% use a flat rate (2005: 18%).

The duration of the use of the Internet is different between younger and older people. It is true that both groups nearly have the same "Internet days" per week: young people 4,7 and older people 4,6 days a week, but people aged 14-29 years use it in average 150 minutes per day whereas people 50+ only 89 minutes per day. This seems to be a result of the more information and communication oriented and more rational use of the web by older people. ⁶

The ARD/ZDF-Online-study also examined the motivational factors of the offliners. Those offliners who plan to get an access to the Internet (20% of them) mention their wish for accessing information from the web and want to learn how to use it. Concrete offers like homebanking, e-commerce and communication are mentioned less frequently than general fascination and social pressure: 68% of the offliners say that an access is "in".

The study addresses also the offliners' fears as regards the Internet. 86% think that Internet use can lead to addiction, 77% consider it to be dangerous because of dissemination of pornography, 75% fear the uncontrolled access to personal data and 71% see it as a loss of time. 68% think classical media are sufficient as information resources, 63% do not understand the Internet terminology. Other reasons are the fear of not being able to manage the flood of information (58%) or the attitude that the Internet can be used for the spread of dangerous political contents (58%). 50% think others will be able to control what I have done on the web. 40% say there is too much advertising on the Internet. 30% (especially older offliners) think web-information is not credible.

Referring to contents that they would consider interesting they answered: Information about holiday-/journey targets (51%), about medicine (51%), service information (46%), events (place and time) (44%), information about hobbies (43%), traffic information (37%), information about job offers (especially for younger people) (35%), background information about politics and economy (35%), being in contact with the family (33%), sending and receiving emails (26%), getting additional information to TV-broadcasting (22%), selling goods or purchasing them by auctions (22%), banking transactions (21%), ordering goods of

⁶ von Eimeren, Birgit; Frees, Beate. „ARD/ZDF-Online-Studie 2006: Schnelle Zugänge, neue Anwendungen, neue Nutzer?“ in: Media Perspektiven. 8/2006, pages 402 – 415 (<http://www.daserste.de/service/ardonl06.pdf>)

daily need (17%). In comparison to 2005 all proportions declined, so the activating potential declines, too.

It is summarised, that offliners who are distant to the Internet, who refuse it or who are not interested in it, do not believe that the web is a great invention. They do not see the benefits or its attractiveness. There are nearly no impulses for access or growth resulting from the new technological possibilities. Social pressure or the feeling of being isolated are the main reasons to get an access. Those who plan to get an access or those who are already experienced see barriers like costs, technological knowledge or handling of the data volume.

⁷(Gerhards, Mende, 2006)

The PCs of the onliners are in average on the latest technological level: 82% of them have got an DVD-drive, 73% a CD-writer, 57% a DVD-writer drive, 39% a headset, 36% a W-LAN card, 25% a USB-TV card, 21% a TV card, 17% a webcam. Broadband/DSL access is very common meanwhile: 48% use it for their Internet access (2005: 36%; 50-59 years old people in 2006: 36%, 60plus: 39%), 24% use ISDN (2005: 38%; 50-59 years old people in 2006: 31%, 60plus: 23%) and 25% a modem (2005: 25%; 50-59 years old people in 2006: 30%, 60plus: 33%). The reason is the large volume of data which is offered and the easier way to get access with DSL instead of ISDN. Especially in the segment of 14 to 19 years old people the DSL use grew.

About half of the onliners use Internet flatrates: 50% in 2006 (50-59 years: 52%, 60plus 36%), volume rate 9% (50-59 years: 7%, 60plus: 11%), temporal rate 19% (50-59 years: 19%, 60plus: 28%), Internet by call 11% (50-59 years: 13%, 60plus: 10%).

The use of DSL advances the use of voice over IP (11% of 50-59 years old people already used it, 9% of 60plus) or multimedia offers (like audio-/video streams, podcasting). The use of instant messaging grows especially in the segment 14-19 years old people. Web 2.0 offers / social software offers grow as well, but 50 plus is in comparison to the general opinion more reluctant. Nevertheless already 20% of 50plus visited Wikipedia, but most of them as readers not as authors.

Accessing some Internet contents demands installing plug-ins or updates. 50% of the users, especially the old, break off these operations.

⁷ Gerhards, Maria; Mende, Annette. „ARD/ZDF-Online-Studie 2006: Offliner: Vorbehalte und Einstiegsbarrieren gegenüber dem Internet bleiben bestehen“ in: Media Perspektiven. 8/2006, pages 416 – 430 (<http://www.daserste.de/service/0406.pdf>)

Reluctance can be noted in the transfer of personal data. 85% fear dissemination, especially 50plus with 91%. Only 25% of the segment 50plus have transferred personal data. (Compare until here: Fisch, Gscheidle, 2006)

A social pressure is stated as the reason for potential of use of the Internet: there is a feeling of having missed something if they do not have access to the web.

Main problems mentioned are distance to technical issues and costs. To overcome barriers there are learning modules about travel, health, security, shopping and finances, which are offered within the initiative "Online-year 50plus – the Internet connects".⁸

The Internet group Enigma of the U3A Frankfurt/Main made an internal survey about their use of the Internet⁹. Interviewees were 12 men, 4 women, aged 60 to 75 years. The following is a summary of some results: Most of the interviewees used the PC already during their professional life, especially for retired men the PC is an everyday life tool. Besides the use of the Internet they use it for text processing. Growing importance has picture editing. Some use MS Office applications like spreadsheet analysis or presentations. Some use data bases or special tools for their hobbies. Less important is the use of the PC for games or as a substitute for TV or radio. Nearly all of them use the PC daily, those with volume rates and DSL use the Internet the whole day. Internet is seen as an universal tool for problem solving. The use of the Internet began for half of the interviewees already during their professional life. The other half was interested in the use of the web after their retirement. Main motive was, besides personal use, collecting information for their studies and taking part in the email-exchange. Before buying the PC and during its further use, the most of them were consulted friends, colleagues or their families. Main problems in accessing the web were handling errors and the vast and unmanageable amount of possibilities. First experiences were described as fascinating but also as chaotic. Most of the U3A-users search systematically, they do not just surf. They either use their list of favourites (only in some cases new sites are viewed!) or the search engine Google as the first choice. Most of them use the Internet as a lexicon or for the following purposes: time table information and booking of

⁸ TNS Infratest, Initiative D21 (Hrsg.). (N)Onliner Atlas 2006: Eine Topographie des digitalen Grabens durch Deutschland. 2006, Kapitel 7: „Unter 50 – über 50: Internetnutzung nach Altersgruppen“, pages 46 – 51 (http://www.nonliner-atlas.de/kontakt-bestellen/download_nonliner.asp?dfilename=dl_NONLINER-Atlas2006.pdf)

⁹ Universität des 3. Lebensalters an der Johann Wolfgang Goethe-Universität e.V. (Hrsg.). Einfluss und Veränderung: Eine qualitative Untersuchung innerhalb der Internetgruppe Enigma zur Internetnutzung. Text: Guntram Bay. Forschung und Projekte 2006 – Nr. 1. Frankfurt am Main, 2006 (http://www.u3l.uni-frankfurt.de/forschen/projekte_ab.html#Enigma)

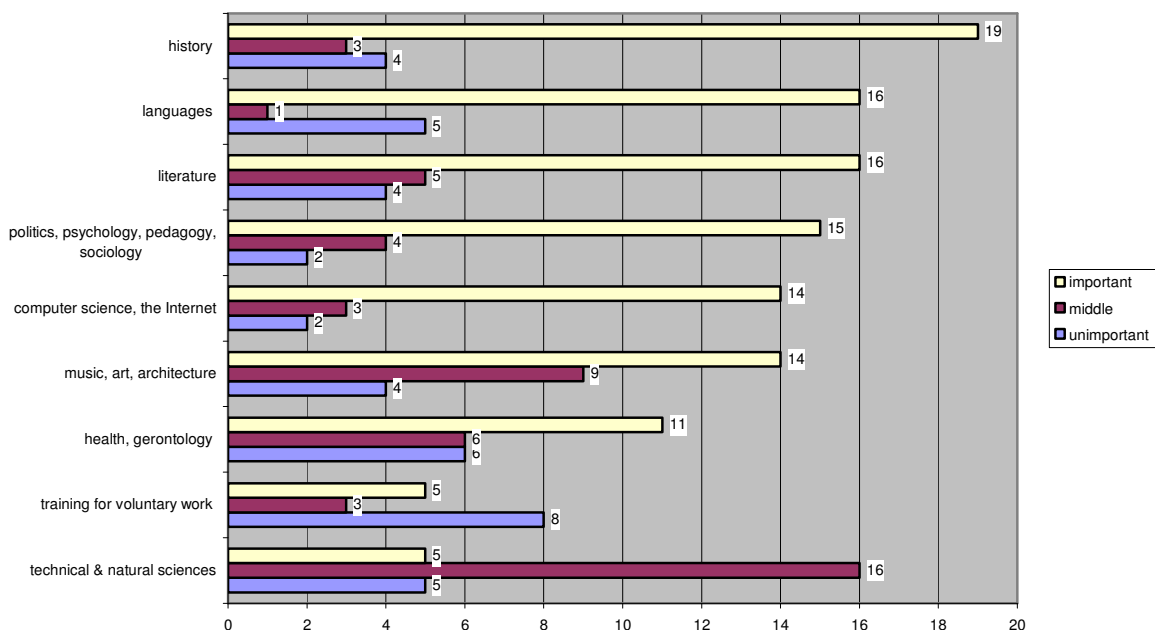
journeys, online banking (some state it would be too dangerous), buying books, buying software, sometimes ebay, buying tickets for exhibitions, theatres and museums, sometimes download of music, informing about and booking of holiday travels, hotels etc. Some of the interviewees use the Internet as a store for hardware, other electronic tools and software. Single persons use it for price information, newsletters, download of ebooks and pictures, voice over IP, stock exchange prices and economic news, directory assistance, blogging. Women use the Internet more for information research and emailing, men use it in a broader way. Their behaviour during their leisure time has changed through using the Internet. They feel that they have less activities with friends or members of the family. Time outside the house and cultural activities seem to be reduced. The main focus in using the Internet is on emailing. It is seen as a communication tool besides telephone and written communication. Most of the group have got two email addresses: one for personal use, one for orders, buying things and other purposes. Most of them are more ready to write emails than letters, the contact to friends increased. All the interviewees know the chat, but they do not use it very often as it is seen as superficial, only moderated chats are judged a little bit more positively. A problem is the need of writing quickly and the style used in chat language. All group members use the discussion forum of the U3A, but most of them do not use other forums on the web as they are not interested in the discussed subjects. Taking also technical problems and social environment into account, most of the interviewees say that the use of the Internet is positive. Nobody said it would be negative. Seen dangers of the use of the Internet are cybercrime and the danger of addiction. Some fear that extremists use the Internet as a platform. Information cannot be controlled and its quantity is of information is too vast. Another danger is malware like viruses, trojans. All interviewees know about these dangers but the qualitative knowledge about them is different. Referring to the future of the Internet and its use, the group answered that it is imaginable to download films and music, to telephone via Internet, to process pictures, to chat, to communicate with offices, to elect, to create an own website. They want an easier use of the Internet.

3. Learner interest fields

The target group is diverse and as the ARD study shows, has also diverse interests. The subject focus of courses and education programs offered by seniors' education providers based in a larger institution or organisation are often determined by the focus of the umbrella organisation (i.e. U3As at universities with humanities-orientation will have mainly subjects in the humanities and U3As at technical universities will have technical subjects) as these usually rely on the teachers and competences of the institution. In some cases, however,

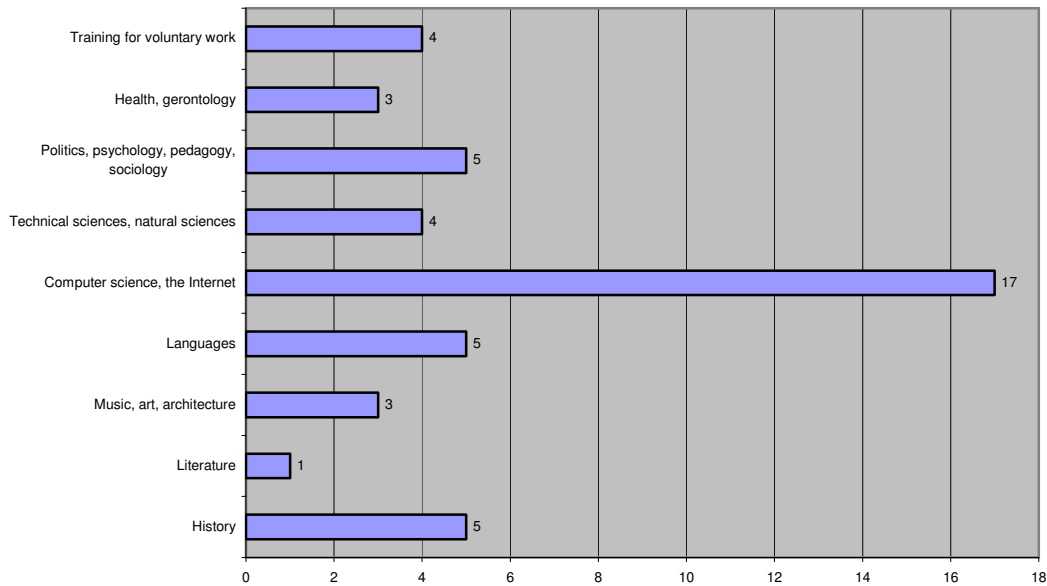
such as seniors' self-help groups (e.g. Universities of the Third Age in the UK), the provider, the group itself, is free in the selection according to the participants wishes, given, that they can provide the trainers or moderators who have the required know-how and teaching competences to answer the demand. In the cases of self-organised groups working in the way of "learning through research", a thematic frame is often given by the education providers and the learners determine the details of the learned theme in the learning process. This method integrates both – the freedom of the learner to select the subject he wants to learn and the possibility for the education provider to provide resources and competences already available.

In the European survey carried out by the project eLiLL at the end of 2006¹⁰, professionals and heads of institutions that were mainly universities of the third age were asked about the use of the new media and the Internet in their education programs. Questions were asked about the course types and subject focus and the importance of the ICT in the programs. The interim results based on 101 replies show, that the general interest focus lies in the area of humanities (history, politics, languages, psychology, etc.)



In spite of this awareness of the learner interest focus, only a few of the organisations use the new media in teaching these subjects. The courses that utilise the Internet are predominantly technical, concentrating on computing and the introduction to the basic uses of the Internet.

¹⁰ Interim results of the survey about how Information and Communication Technologies (ICT) are used in seniors' education in Europe. Conducted 2006/2007 by the project eLiLL- eLearning in Later Life, ZAWiW, p. 4



Question pertains, if the way of getting older people interested in the use of ICT following the route of first introducing them to the technical uses before its thematic and other practical uses, is the most effective way.

As seen in the project “Gemeinsamlernen übers Netz”¹¹, older people, also those who are technically distant, often acquire the necessary skills needed to use the new media, when they work together on subjects that are interesting to them. The provision of courses on subjects interesting to seniors may attract new older learners to use the new media.

As learning shall lead to solutions for acute questions and problems it should be active exploring, researching and cooperation in projects drawn from life and in exciting practical situations. Competences develop the best by learning what is experienced as interesting and meaningful. And so learning which should foster competences should be personally meaningful. Natural curiosity should be fostered, competences will increase through knowledge development and application, the interests and the biography of the learners need to be included in the learning processes that have to concentrate on learning which motivates and satisfies.¹²

The target group for learning with the new media can be differentiated according to their interest in technology / new media and in education:

¹¹ <http://www.gemeinsamlernen.de/>, model project of the Zentrum für Allgemeine Wissenschaftliche Weiterbildung, 2002-2005

¹² Dohmen, Günther: “Lernen als Wert in einer sich wandelnden Gesellschaft” in: Stadelhofer, Carmen (Hrsg.). *Forschendes Lernen als Beitrag zu einer neuen Lernkultur im Seniorenstudium*. Neu-Ulm: AG SPAK Bücher, 2006, pages 19 – 28 (http://www.uni-ulm.de/uni/fak/zawiw/content/allgemein/publikation/band_fl.pdf)

	Interested in education	Distant to education
Distant to technology	- +	- -
Interested in technology	+ +	+ -

People who are interested in technology and in education have the chance of an interactive intensification of learning. For people who are distant to education but interested in technology could find a new access to learning, barriers could be reduced. The other way round people who are interested in education but not in technology could find a positive way to the new media. For people who are distant to technology and to education other possibilities must be found which build on their different experiences. (Stadelhofer, 1999, page 158 f.)

4. Educational needs and orientation of the target group 50+

Knowledge society stands not only for knowledge and productivity, but also for the continual growth and update of knowledge. The term “life-long learning” is often used in connection with vocational and continuing education. This applies also to older people. Especially in the area of vocational training is there a great need for training of older workers in order to keep them in employment. Although there is a large offer of this type of training in the area of eLearning, this is not focused on the needs of older workers.

There is also a large need for non-vocational training. A study from the Deutsche Gesellschaft für Gerontologie, GGT Iserlohn, shows, that every 5th older person (19%) is interested in academic education. Currently, only 0,19% people aged 60+ take part in seniors' education. One third of those interviewed in the study have also specified that they would use the Internet for their learning. Their interest range was wide: health, politics, culture, religion, philosophy and social sciences. Men were more interested in economy and politics.

The group 50+ associates non-vocational education with the wish to learn in a self-determined way and without pressure. They are reservations against official certifications and formal examinations. In the GGT study, 82% of the persons asked reacted negatively on the issue of certificates, but 15% would still like to have a proof of study.

The older learners are characterised by a high motivation, often intrinsic motivation – i.e. fun of learning and not through extrinsic factors, i.e. promotion in a job. Another strong

motivational aspect is the need for social contacts. The forms of ICT-based education should take these needs into account and to include them in their didactic approaches.

Vocational and non-vocational training of people 50+ has to take into account the experiences and life situations of the learners. Their experiences and competences have to be identified and included in the learning process. Also individual learning biography, previous successes as well as frustrations, have to be considered. Especially self-organised learning forms require appropriate learning supervision and advice, so that the particular learning types find their fitting learning forms.¹³

5. Pedagogical approaches

While behaviourist pedagogical approaches may be a solution in the transfer of basic media skills where the learners need a closer guidance and support, the preferable methods applied to more complex forms of eLearning with older people should be those that leave room in the education activities to the application of own initiative and to self-directed aspects. These are found in constructivist approaches where the basic premise is that an individual learner must actively "build" knowledge and skills (e.g., Bruner, 1990) and that information exists within these built constructs rather than in the external environment. Knowledge is constructed in each action of realisation and exists not independently from realised subject. The structure of reality is determined subjectively "personal experiences determine reality and not the other way round" and (Coop 93, s.16). Learning is seen as active action that takes place under the influence of prior knowledge and the social context.

¹⁴

Influential on education approaches for older adults and adults in general is the work of Malcolm Knowles who identified five crucial assumptions about characteristics of adult learners:

- The move from being dependent personality toward being self-directed human being
- The accumulation of experiences that become an increasing resource for learning
- The readiness to learn is increasingly oriented to the developmental tasks of the person's social roles
- The move from postponed application of knowledge to immediate application and from subject-centeredness to problem-centeredness
- The motivation to learn will become internal

¹³ Stadelhofer, Carmen und Marquard, Markus Zielgruppendifferenzierung von Bildungsinformationssystemem am Beispiel von älteren Erwachsenen

¹⁴ Methodisierung und E-Learning, Strangmaier und Bankwitz, 2003

Self-determined forms of learning enable the utilisation of the older learners' experience and competences acquired throughout their life and profession. Older people can orientate themselves better in new learning contexts when they can draw on and build on their previous experiences. The motivation for learning is often the search for new fields of activity and roles in society after professional career with a strong need for product-orientation and its direct utilisation in a meaningful way.

5.1. Pedagogical approaches in the project “Gemeinsam lernen übers Netz”¹⁵

In the project “Gemeinsam lernen übers Netz “ the methods applied and tested in virtual and blended learning situations were self-organised learning and “learning through research”. Learning in this project is understood to be a personality development process that relates to the intellectual, emotional, pragmatic and social components of learning.

5.1.1. Self-organised learning and “learning through research”

Self-organised learning is a learning form, in which all learners steer to a great part their own learning process¹⁶. The form of the self-steering related in the project to learners who joined voluntarily the learning process and have brought it forward without aiming for any formal gratification. For the learners in the project this had meant : building on given competences and learning interests, responsibility for own learning process, discovery of the interactive possibilities of the Internet, learning and finding own position in subject and methodological contexts, development of problem-solving strategies in content and group-related problems, combining forms of formal and informal learning. This form of learning demanded initiative, activity, creativity: the learners took on responsibility for steering and control processes – this presupposes intrinsic motivation and interest in learning.

Self-organised learning should not be seen as autodidactic approach, but an approach that means the targeted use in of educational offers in a self-determined way in a frame of appropriate combinations of learning methods and learning techniques. Self-organised learning finds itself between the poles of maximal self-determination and maximal external-determination and can include also autodidactic elements as well as supporting education

¹⁵ <http://www.gemeinsamlernen.de/>

¹⁶ Dohmen, Günter: Selbstgesteuertes lebenslanges Lernen? – Ergebnisse einer Fachtagung Dezember 1996, bmbf, s.16

elements. The focus can vary depending on learning conditions, experience, motivation and content.

The concept of self-organised learning requires due to its high requirements for the self-determination of the learners a continual development and innovative methods. The learner is in an active position, while the trainer has the task of providing “tools” for problem solving. In this relation, the use of the new interactive and transnational communication possibilities via the new media presented a great challenge, but also a great chance for the concept of self-organised learning.¹⁷

Another method applied in the project “Gemeinsam lernen übers Netz” is “Learning through research”. “Learning through research” is a self-organised form of scientific enquiry. It is in a direct relationship to the terms discovery learning, problem-oriented learning, genetic learning, critical learning, project learning. What they have in common is the understanding of learning in which the learner actively and independently determines, tests and reflects the learning goals and the learning ways. The tasks of the teacher are those of a moderator and consist in the initiation of project groups and their accompaniment starting from the search for a subject to the documentation of the results. The moderator is also responsible for the support of the group concerning methods and approaches and the organisation of the introductory modules on methodical issues. The groups of “learning through research” come to being in a process. Through particular input (mainly education programs or lectures), the people interested in the subject get together, who consequently work in the selected subjects. Then the work of the “learning through research” group starts.¹⁸ The new media applied in the context of “learning through research” work have made it possible to explore the possibilities of learning independent on place and time with the application of varying amount of self-steering or moderation.

The principles of “learning through research” were mirrored in the processes of acquisition the skills how to use the Internet. The seniors acquired the media competences in a process and often through learning by doing. They learned to use them with confidence and how to apply them appropriately in the learning processes and to determine themselves, which communication form is the one best suitable for which purpose. Important in this connection was the continual support of the participants through the project team and was in case of new participants very time-consuming, but also rewarding. The support and the transfer of practical Internet knowledge happened in different ways: in real seminars, through telephone support, through training from a virtual moderator, the design of special training materials (especially CD-ROMs developed by ZAWiW in cooperation with the target group) as well as

¹⁷ Report „Gemeinsam lernen übers Netz“, 2006, p. 41-42

¹⁸ Stadelhofer, Carmen, *Forschendes Lernen von Seniorstudierenden an der Universität Ulm. Ziele, Umsetzung und Perspektiven eines Schwerpunkts*, s.227-246

through the development of virtual training courses for the transfer of “technical basis of virtual learning” (TvL). Important was also the mutual support amongst the participants. In order to foster this, the project organiser organised activities for the training and consultation of Internet tutors.

5.1.2. Virtual learning

The special characteristic of the virtual learning groups is that they use systematically various communication technologies such as email and mailing lists, chat, forums, videoconferencing and netmeetings and similar, face-to-face meetings.

Learning experiences relate often to the occasions in which the teachers and the learners come together to transfer or to acquire new knowledge or to improve or acquire new skills. The term virtual learning or E-learning is relatively new. Besides the learning forms in which the teachers and the learners meet virtually, there is also “hybrid learning” or “blended learning”. In the hybrid learning arrangements “the necessary components of the learning offer are deduced from the frame conditions of each didactic situation and special quality and efficiency are realised through the combination of the elements of different methodical and media conceptions”¹⁹.

Self-organised virtual learning groups do not differ much from the “usual” self-organised learning groups. The joint characteristics are: limited number of participants also in the virtual cooperation forms:

- accepted are 10 till 20 participants who introduce each other with a photo and text on password secured website
- agreement on the goals – roughly suggested by the initiators of the course, but specified in detail by the participants of the group in a longer joint process
- agreement on duration for each selected subject (that does not need to be always adhered to)
- the distribution of roles and tasks (for example giving lectures, writing minutes from discussions)

Virtual learning means, that the participation of the individual learners takes place over the Internet independently on time and place with the application of multimedia interactive tools. The learners live at different places and the expectations, motivation and prior knowledge

¹⁹ Kerres, Michael: Online- und Präsenzelementen in Lernarrangements kombinieren. In *Gemeinsamlernen Bericht*, P. 45

cannot be assessed in a face-to-face group talk. Only the written word applies that is interpreted independently from writing context of the person.

The great challenge of the model project was the question which methods could be realised in the situation of self-organised learning of older adults. What are the virtual group processes without clear targets and hierarchic distribution of roles? Which role types will develop, which roles will be adopted? Which subjects and learning arrangements are suitable, are there various appropriate learning forms of virtual cooperative “learning through research” depending on group composition?

5.1.3. Virtual learning communities

“A virtual learning community is a community of people with common interests, who with some regularity and commitment exchange information and make contacts via the computer”²⁰. Like in the real existing networks, there are fostering and hindering factors also for the virtual cooperation and networking processes. Decisive for a functioning network is not only the technical platform, but it requires the establishment of a member group, that takes part in a regular exchange over the web. Required is also organisation concerning roles of conduct, task processing and targeting, also planning and the division of tasks. Photos and personal introductions can reduce anonymity and support the virtual communities.

5.2. Virtual course types tested in the project “Gemeinsamlernen übers Netz”

In the course of the project, various course types were tested that differ in the grade of extrinsic or intrinsic steering, share of virtual and face-to-face learning, work processes and moderation. Various tasks and roles of the group members crystallised in the process and influenced the development of the course. Another important issue is to which extent does the education provider cooperate with other educational bodies, if the target groups is extended (e.g. by young people), or if the frame was extended (e.g. to European dimension). The time limit or duration was also relevant for the differentiation of the courses. Often preferred in the learning groups was a mixture of virtual and face-to-face learning (blended learning), also due to the development of social contacts. To sum up, the following categories should be differentiated:

²⁰ Döring 1999, Jones 1997; Smith/Kollock 1999 zitiert nach. Dr. Döring, Nicola. Virtuelle Gemeinschaften als Lerngemeinschaften!?: Zwischen Utopie und Dystopie. In „Gemeinsam lernen übers Netz“ Bericht, S. 48

- self-organised thematic learning groups
- moderated learning groups
- introductory courses in the technical skills
- thematic learning courses.

Self-organised learning was positively assessed by the learners. Many participants preferred framework such as limited time duration of the course, supporting moderation. The various courses were based on various prerequisites and needs of the participants – there was not a form of course that would be preferred.

6. Moderation

Self-organised learning offers and especially online-based offers for seniors require special approaches in moderation (“eModeration” for online offers). He or she has to adopt the role of a consultant and provide support on technical and administrative issues, to moderate subject matter and process, solve conflicts. The moderator has to find the right measure of control and hands-off approach in order to provide direction and clarity as well as giving room for the application of the learners’ competences. He or she has to understand the rules of online communication and the aspect of online-socialising and asynchronous communication. He or she has to take into account varying technical competences, varying learning biographies and life experiences.

Encouraged should be contacts between the students themselves and self-help measures.

7. Accessibility / Barrier freedom

Older people should not be excluded from using the ICT because of physical disabilities, nor their lack of technical knowledge or orientation.

Before embarking on a course the participants’ level of technical knowledge should be tested and approaches found to help those who have difficulties with the technology to a stress-free start that will make using the new media a positive experience.

Approaches and special didactic to training older people with very little knowledge of the new technologies in the use of the PC and the Internet have been developed in the Western countries in the frame of education programs of organisations such as universities of the third

age, seniors centres as well as various projects, e.g. Senior Internet helpers (SII)²¹ or the The Mouse Mobil in Germany– the former introducing the use of the Internet to older people in rural areas and the latter focusing on the use of the Internet by the very old who may have difficulties leaving the house²², The Computer Buddies²³ in Scotland – a self-help peer teaching activity of the University of Glasgow, or the Seniorcom.at²⁴ a nationwide information campaign in Austria, to name just a few a few.

Especially effective in teaching and guiding through the first encounters with the technical aspects of the new media have proved to be peer teaching models in which trained seniors take on the role of teachers. Peer trainers can understand and handle the initial fears and adjust better to the older people's learning pace.

While activities aiming to introduce the technicalities of the new media to older people are very numerous in Germany, Austria and the rest of the Western Europe, the development and the application of such activities is not so common in Greece and Lithuania. In Greece, people over 50 can participate in ICT oriented trainings within Life Long Learning programs, but there seem to be no special provisions made for them²⁵. In Lithuania²⁶, the focus is mainly on regular education. Continuing education of seniors is addressed in several EC projects, in which ICT-skills plays a role, i.e. the Ways of Internet Teaching Project²⁷ in which the seniors can improve their language and ICT skills or the AAASA project with primarily cultural thematic²⁸.

Accessibility issues as well as a list of recommendations for designing senior-user-friendly web sites is provided in WP3, chapter 4.

7.1. Web usability

The researches on web usability concentrate on the cognitive difficulties of seniors such as the age-related decrease of the ability to perform some mental operations. These are for example the ability to simultaneously remember and process new information, to perform

²¹ <http://www.senioren-internet-initiativen.de/>

²² <http://www.mousemobil.de/content.htm>

²³ <http://groups.msn.com/3lcomputerclub/>

²⁴ www.seniorkom.at

²⁵ ICT4T Greek national report.

²⁶ ICT4T Lithuanian national report

²⁷ <http://www.w-i-t.net/>

²⁸ <http://www.sidmc.org/senior/>

complex cognitive tasks, and to comprehend text.²⁹ Although not dramatic, these changes can intervene with the performance of some daily tasks such as using the computer.³⁰

According to the Generation 50+ im Internet report, rarely considered is also the life and value milieu of the participants. This means that the providers have to consider not only the technical, but also the content and conceptual optimisation of the offer.

The Generation 50+ im Internet report³¹ proposes the following recommendations to web usability, that besides the general prerequisites to good general user orientation with a simple, intuitive steering for all age groups, includes also the integration of specific Internet-related issues:

- Actuality
- Clear structure
- Quick to find information
- Easy access to further information
- Various consultation offers
- Personal service
- Simple to use and clearly explained technical use

A role play also the content design and language – e.g. the language should be simple without too many foreign expressions, glossary should be used for technical terminology, language and content should not include aspects in which age is negatively presented. The content should be presented in a clear way with a clear difference between titles and text, complex contents could be prepared in the form of a “guided tour”, the contents should be viewed easily and long scrolling avoided, animation and dynamic contents should be presented with sufficient time to be viewed, etc.

A checklist that provide research-based guidelines for more accessible website design were developed for example by the National Institute on Aging³².

7.2. Barrier freedom

According to the Statistical Bundesamt, in 2003, there was in Germany 8,1% of disabled persons with the grade of disability of 50. 50% of the disabled were 65 years old and older,

²⁹ Craig and Salthouse, 2000 in Making your Website Senior Friendly

³⁰ Czaja&Sharit, 1998, Morrell, 1997 in in Making your Website Senior Friendly

³¹ The Generation 50+ im Internet, p. 39

³² <http://www.nlm.nih.gov/pubs/checklist.pdf>

further 24% belonged to the age group between 55 and 65 years of age. The disablements increase dramatically for the age group 65 years old and older.

The Generation 50+ in the Internet report does not recommend³³ the design of special contents for disabled people. Such offers are often viewed as fringe-offers by this group and give a stigmatising impression. The development of such contents is very complex. The alternative is the development of contents for all users, which will then be adapted by the handicapped persons with the aid of assistive technologies developed for this purpose. (See WP3, p.31)

8. Criteria for course design

In relation to eLearning, Stadelhofer and Marquard (2006) identified three main aspects for the differentiation of the target group 50+ according to learner-orientation:

1. Is it externally or self-determined situation? Is it a case of intrinsic or extrinsic motivation? As the most people aged 50+ have their career planning or in case of women at home, their family basis, behind them and are rather on the search for a post-professional activity, the most of them are likely to be self-determined learners with a high intrinsic motivational aspect.
2. Are the learners technically oriented or technically distant? eLearning presupposes a certain amount of knowledge of or preparedness to use the new media. If people reject the new media, also good eLearning course will not be successful. It is therefore important, that the technical applications are manageable for the learners and do not endanger the learning process through failures in the use of the technical tools. Also education-orientation is important here, in the most difficult case, education-distance and technical- distance meet and reinforce each other.
3. Which learning types are there? According to Merriam & Lumsen (1985) are there 4 types of learners: 1) older learners who prefer formal and structures learning environments, 2) old people who work independently and project-oriented in the way of self-directed learning, 3) older learners who profit from cooperation in projects and 4) older people who have only small (active) interest in learning. Consequently, for the learning type 1 a well structured computer or web-based training is optimal (cbt/wbt), for learning type 2 and 3 might prefer a cooperative form of learning. Through quick success-oriented learning modules could be possibly attractive for the learning type 4, especially if he or she likes to use the ICT.

³³ The Generation 50+ in Internet, p. 45

Stadelhofer and Marquard also suggest aspects that should be taken into account when designing eLearning courses and activities for adults 50+:

Interactivity in the processing of the learning material – fosters active participation in the learning process and enhances the possibility of learning successes. It is steered via learning controls such as multiple choice tests or through the necessity to self-determination of the learning interest or the issue and with it the learning content (learning type 2).

Communication in the frame of the eLearning. The exchange between the learners and the possibility for synchronised (chat, video conference, etc.) or desynchronised (forum, exchange of documents, etc.) communication to discuss joints results and to work in projects in the way of cooperative learning enables the learners to utilise their competences and experiences (learning type 2) and to profit from the participation in the project (learning type 3).

Consultancy and support are very important in the frame of eLearning. Not only in relation to technical and administrative issues, but also in relation to the learning subject, to methodic and didactic aspects and the specific problematic of conflicts.

The **combination of eLearning and face-to-face meetings** (blended learning) is very helpful in the frame of cooperative learning. Face-to-face contact builds important frame for feeling of togetherness in a learning community.

Barrier freedom means not only the accessibility of eLearning education offers by people with disabilities, but also that the technical requirements do not exclude older people who are not technically oriented. Training in technical basis in advance of the eLearning course can be a solution to this.

9. Criteria of good practice for education activities using the ICT

Developed within the project eLiLL – eLearning in later Life³⁴ was a proposal for criteria of good practice for education projects and activities using the ICT. These criteria based on the

³⁴ Criteria of good practice developed for the evaluation of education activities for seniors utilising the ICT www.elill.net

criteria framework for education work with older people from Franz Kolland³⁵ were enhanced by aspects relating to self-directed work with the new media. They include the following categories:

Content

- Participation of older people in the development of the subject and contents
- Orientation on the needs of older people (education, gender, age, professional experience, learning types)
- Opening of new fields of activity and roles in society for the learner

Methods/didactic

- Methods developed for older learners
- Self-determination - learners influence methods and didactic (self-organised learning, "learning through research")
- Active participation of learners in the learning process (participation in research activities, giving lectures, seminars, etc.)
- Taking into account the level of learners' technical skills (preparatory courses for using technical tools, training materials designed for seniors)
- Transparency of concept (clarity of learning goals, success criteria, learning times, qualifications)
- Interactive communication (communication tools suitable for older learners, multi-level communication possibilities in learning platforms, real life meetings)
- Consultation and support (technical and administrative, moderation of subject matter and process, conflict solving)
- Innovative aspects (inclusion of new technical developments, new methods)

Accessibility and participation

- Acceptable cost (of the course, of the equipment or access to equipment)
- Barrier freedom (in the design and layout of the technical tools, technical level does not exclude people)
- Good information measures (information actions and campaigns, press work, public relations, trial actions, taster courses)

Continuity/sustainability

- Possibility for long-term use of the acquired competences

³⁵ Franz Kolland, *Bildungschancen für ältere Menschen* (2005)

- Creation of structures securing continuity (networks, self-help groups, advisory services, possibilities of access to the Internet)
- Development of follow up projects
- Influence of policy-makers (changes in policy, opening of funding possibilities and support)
- Publicity and dissemination of results
- Publication of results

Quality control

- R&D - research and development (accompanying research, application of findings in subsequent actions)
- Evaluation .- external or internal (in process control , evaluation of results)
- Documentation of successes and also problems

References

- Survey of the market research Company TNS Gallup in May 2005.
Chapter 6 of the Report related to Activities, attitudes and values
<http://www.imsersomayores.csic.es/documentos/estadisticas/informe-mayores/2004/pdf/tomo-1/opm-tomo1-06cap6.pdf>
- National Institute for Statistics, survey of *Equipment and Information and Communication Technologies in Household*,
<http://www.ine.es/inebase/cgi/um?M=%2Ft25%2Fp450&O=inebase&N=&L=0>
- Interim results from the eLearning in Later Life Survey2006, www.eill.net, eLearning Program of the EU
- von Eimeren, Birgit; Frees, Beate. „ARD/ZDF-Online-Studie 2006: Schnelle Zugänge, neue Anwendungen, neue Nutzer?“ in: Media Perspektiven. 8/2006, pages 402 – 415
(<http://www.daserste.de/service/ardonl06.pdf>)
- Gerhards, Maria; Mende, Annette. „ARD/ZDF-Online-Studie 2006: Offliner: Vorbehalte und Einstiegsbarrieren gegenüber dem Internet bleiben bestehen“ in: Media Perspektiven. 8/2006, pages 416 – 430 (<http://www.daserste.de/service/0406.pdf>)
- TNS Infratest, Initiative D21 (Hrsg.). (N)Onliner Atlas 2006: Eine Topographie des digitalen Grabens durch Deutschland. 2006, Kapitel 7: „Unter 50 – über 50: Internetnutzung nach Altersgruppen“, pages 46 – 51 (http://www.nonliner-atlas.de/kontakt-bestellen/download_nonliner.asp?dfile=dl_NONLINER-Atlas2006.pdf)
- Universität des 3. Lebensalters an der Johann Wolfgang Goethe-Universität e.V. (Hrsg.). Einfluss und Veränderung: Eine qualitative Untersuchung innerhalb der Internetgruppe Enigma zur Internetnutzung. Text: Guntram Bay. Forschung und Projekte 2006 – Nr. 1. Frankfurt am Main, 2006 (http://www.u3l.uni-frankfurt.de/forschen/projekte_ab.html#Enigma)
- Interim results of the survey about how Information and Communication Technologies (ICT) are used in seniors' education in Europe. Conducted 2006/2007 by the project eLiLL- eLearning in Later Life, ZAWiW, p. 4
- Report from the model project Gemeinsamlernen <http://www.gemeinsamlernen.de/>, of the Zentrum für Allgemeine Wissenschaftliche Weiterbildung, 2002-2005
- Dohmen, Günther: „Lernen als Wert in einer sich wandelnden Gesellschaft“ in: Stadelhofer, Carmen (Hrsg.). Forschendes Lernen als Beitrag zu einer neuen Lernkultur im Seniorenstudium. Neu-Ulm: AG SPAK Bücher, 2006, pages 19 – 28 (http://www.uni-ulm.de/uni/fak/zawiw/content/allgemein/publikation/band_fl.pdf)
- Stadelhofer, Carmen und Marquard, Markus Zielgruppendifferenzierung von Bildungsinformationssystemem am Beispiel von älteren Erwachsenen.
- Strangmaier und Bankwitz, Methodisierung und E-Learning, 2003
- Dohmen, Günter: Selbstgesteuertes lebenslanges Lernen? – Ergebnisse einer Fachtagung Dezember 1996, bmbf, s.16
- Stadelhofer, Carmen, Forschendes Lernen von Seniorstudierenden an der Universität Ulm. Ziele, Umsetzung und Perspektiven eines Schwerpunkts, s.227-246
- Kerres, Michael: Online- und Präsenzelementen in Lernarrangements kombinieren. In Gemeinsamlernen Bericht, P. 45

Döring 1999, Jones 1997; Smith/Kollock 1999 zitiert nach. Dr. Döring, Nicola. Virtuelle Gemeinschaften als Lerngemeinschaften!?: Zwischen Utopie und Dystopie. In „Gemeinsam lernen übers Netz“ Bericht, S. 48

netaspect internet and marketing, GmbH, The Generation 50+ im Internet report, 2005

netaspect GmbH, The Generation 50+ im Internet report, 2005,

Franz Kolland, Bildungschancen für ältere Menschen (2005)

Making your Website Senior Freindly, National Institute of Aging