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eLearning for children and elderly people

Summary

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SUMMARY

The concept of »lifelong learning« aims to enable people to learn autonomously throughout their whole life. In this way the concept meets the requirements of the knowledge-based society, in which the resource of knowledge is a central precondition for performance and competitiveness. eLearning is an important instrument for the support of learning processes, in particular allowing for an individualisation of the learning content and flexibility with regard to the times and locations of learning. As a result eLearning is an appropriate tool, especially in the context of lifelong learning, to fulfil target group-specific characteristics and requirements according to the phase of life and learning situation.

Within the scope of TAB's monitoring of eLearning and on the basis of two selected phases of life – *childhood* and *old age* – the present study works out to what extent target group-specific requirements already play a role in the development and in the market of eLearning products.

CHILDREN AS TARGET GROUP

The first educational goal for children in their early phase of life considered to be the development of competencies. This comprises a combination of personality development, learning skills, the ability to acquire and to apply knowledge, linguistic, social and motor skills, as well as media skills. Informal learning is thus considered to be the most important type of learning with respect to scope and quality. As it is not only the informal background, but rather also the influence of educational institutions and peer groups which are crucial for learning success in the early learning phase, the decisive actors need to be well networked and accompanied educationally by counselling and preparation.

Media use as a determining factor for eLearning

The user characteristics of children as a target group in terms of the use of the computer and Internet as a precondition for the implementation of eLearning are heterogeneous subject to various contexts.

For this reason consideration should be given to the fact that educational influences and measures are effective with children as a target group in addition to their own child-related preferences. For children the computer is an appliance which is predestined for informal learning, as it is preferably used for playing



games. In order to understand informal learning with media, it is important that it also portrays itself as experiential learning, implicit learning, everyday learning, self-directed learning and competence development learning.

According to the German government's twelfth children and youth report, media (worlds) are not places of learning in themselves; however an important world of learning with its own opportunities and risks. The majority of children and young people use the computer and the Internet, with access either privately at home or at school. The informal background has an important role to play in the development of media skills. Thus social inequalities can reflect themselves or be reinforced in dealings with computers and the Internet in general. Children from socially disadvantaged families spend above-average amounts of time watching television, whereas children growing up in socially better off environments have greater opportunities to use computers and the Internet with above-average frequency. As a result they are more likely to fulfil the conditions for participation in eLearning courses.

Self-directed learning using a range of media constitutes an additional obstacle for children from underprivileged educational backgrounds to participation in learning processes, because multimedia learning opportunities require a high level of self-motivation, cognitive skills for navigational tasks, the ability to independently structure cross-linked (hypertext) learning courses as well as a high degree of self-organisation. The last requirement in particular is problematic for children who are slow learners, whereas children who learn quickly are better able to master these challenges. Considering the social differences however, it is important not to ignore the fact that media use by many »privileged« children from higher social classes often extensively equipped with new media can also become extended and problematic without adult supervision.

The eLearning market and eLearning services

There is broad transparency on the eLearning market for children with regard to the providers of eLearning products, the intermediary institutions and the products supplied. The actors here include educational publishers, software developers, companies, non-profit institutions, and private persons. Only a number of the providers are marketing eLearning products (primarily) for a profit. Other companies are providing products specifically targeted towards children for image reasons or with the objective of attracting customers in the long-term. In addition there are a number of institutions which are active on the market as non-profit organisations or on public contracts.

eLearning services for children comprise computer games, straightforward learning programmes and edutainment services. This extension of the definition of services makes sense, if one takes into consideration the fact that the majority of computer games are also deployed for didactic purposes and can help in the development of skills such as reasoning and strategic thinking or dexterity.

The largest share of businesses which are active on the eLearning market for children produce and market content such as e.g. educational software, edutainment products and computer games. There are comparatively few courses, seminars and workshops on offer which concentrate on training media skills. On the whole the range of products targeting children both in the field of educational software as well as in edutainment products, games, seminars, courses, Internet platforms, pages and forums is strongly diversified. This is a pointer to the fact that this target group is also taken seriously from a commercial viewpoint and that the market potential even for specialist products in small numbers is rated as promising. Further it can be observed that there is an increase in the interactive presentation of the product range. This has to do with the fact that

- > the increasing availability of high-speed Internet connections has made the comfortable use of complex applications possible;
- > interactive services have a higher appeal on the demand side than stand-alone-products due to their communicative elements;
- > on the supply side there is the opportunity of employing interactive elements for customer retention and canvassing as well.

Concerning the distribution side, a lot is being done to raise the market transparency and the visibility of eLearning services. Alongside retrievable databases and providers' Internet pages, traditional distribution channels are still used (advertising in print media, TV and radio).

The anchoring of eLearning services for children to institutions is judged very positively by providers. The German Education Server, which was established by the Standing Conference of Ministers of Education and Cultural Affairs of the Länder, the Federal Ministry of Education and Research (BMBF) and the Bund-Länder Commission for Educational Planning and Research Promotion, but also the Länder education servers are considered as good examples of institutional anchoring both of provider databases as well as of eLearning platforms.

Through quality assessments by experts and reviews by users on the Internet, a quality control mechanism was established, which exerts a not inconsiderable influence on the provider's production process in the opinion of the experts



consulted on behalf of TAB . Furthermore, the influence on the decisions to purchase children's software by the peer groups may be considerable.

Outlook

eLearning instruments such as educational software for children or specific children's software constitute a considerable independent market. A close linking of computer use in particular for playing games and informal learning processes is discernible here. There are already large numbers of studies and pedagogic approaches to child-specific demands on eLearning, just as there are numerous approaches to implementation in the form of learning courses, whether these are for preschool, school or for home use. In addition there are quite a few initiatives concerning the evaluation and assurance of quality of the products. An increasing commercialisation of eLearning services for children in future is probable, as media companies and publishers have long identified children and adolescents as a target group and are for example also actively ›cross selling‹ children's software: And so there is the book of the film as well as the computer game and vice versa.

The commercial potential of eLearning for children is a driver to ascertain the target group needs, whether from the provider's side or from that of research, e.g. in the fields of child psychology and media education, in which harmful influences and consequences are investigated as well as the potential for greater learning success. It is certain that in the near future the partial target group of pre-school children, which has to date been underrepresented in the course of the current debate on pre-school educational concepts and the extension of care provided by nursery schools, will increasingly become the focus of the determination of requirements. The structures of inequality still need to be taken into consideration:

- > not all children have equal access to media;
- > parents with higher education levels are more proficient in handling media;
- > through new ICT technology or through different access capabilities and usage the gulf of knowledge in society can be widened.

There is still however also a necessity that – more specifically than has been the case to date – an evaluation of educational software for children is carried out in the educational sciences, computer science and also in media education, which does not only measure the success of its implementation, but rather takes account of the different age groups, varying didactic approaches, learning theory contexts as well as pedagogically created learning environments. With this

in mind, pedagogically appropriate as well as demanding educational software meets the pedagogic goals of its application context and fulfils associated expectations. This however can only develop through evaluation or systematic progress reports, which draw upon corresponding eLearning instruments and environments. To date these are not however available (on a large scale).

TARGET GROUP ›ELDERLY PEOPLE‹

Informal learning has greater significance for elderly people than formal learning. At the same time the acquisition or retention of independence and self-determination is also an essential goal of learning at a more advanced age. The development of competencies with elderly people is less a case of attaining new proficiencies and abilities but rather more of retaining existing skills. At the same time older people acquire new skills which help them pass on experience and knowledge or to enable them to undertake voluntary work. Learners in this phase of life are generally less mobile than in earlier phases, so that media educational services – as opposed to events requiring attendance – acquire additional significance. One important aim in creating learning services is the dismantling of barriers to accessibility and usage for this target group. Elderly people who regularly took part in further training courses during their working life also value this highly as they get older. People with higher levels of education are more likely to take part in training courses at an advanced age than those with a lower level of educational attainment.

Media use as a determining factor for eLearning

The target group of elderly people is also not a homogeneous group as regards media use and educational demand. In recent years their media use pattern has changed to indicate a more frequent and intensive use of electronic media. Since 2005 the biggest increases in Internet use have been among the over 50s, and in particular the over 60s, (as well as pensioners). With about 20 million elderly people currently »non-connected«, the need to introduce them to the use of modern media and the participation in eLearning courses is still considerable. There are however significant differences in usage within the target group of elderly people according to age group, gender and education. It can be seen here that socialisation effects such as behavioural roles and proximity to education still play a part in later learning phases. The use of electronic media at an advanced age has gained in importance in recent years, so that differences in usage concerning the frequency and intensity of use by age are likely to decline within the target group of elderly people.



Great differences will remain in future between the »Young Elderly« and the »Aged«. Computers and the Internet present interesting alternatives to traditional educational media for the target group of »elderly people« due to their ability to reach less mobile learners as well as to reduce barriers to access and usage. The few results relating to media use by elderly people in the sector of further training indicate that it can be assumed there is interest in all media-linked types of informal and formal learning. Good preconditions therefore exist for this heterogeneous target group to try out and implement new concepts of life-long learning.

The eLearning market and eLearning services

The term eLearning has a completely different accentuation in the market segment for elderly people when compared to the market for children. Until now it has been clearly on imparting media skills, therefore learning how to handle electronic media. Elderly people have a predominantly practical interest in the Internet and seldom regard the computer as an entertainment medium. Thus information with thematic priorities such as illnesses, travel, financial questions, and languages and so on are accessed in particular. This may stem from the fact that education and the learning of specific content have as yet only found expression in very few of the providers' product development and marketing activities. An analysis of the market shows that such products hardly exist at all or are only cautiously marketed. Thus isolated online English courses are offered especially for elderly people, but not for example eLearning modules on specific topics.

Therefore an institutional anchoring of appropriate services is not currently discernible; there can be no talk of market development. All of the services identified have more of a (pilot) project or experimental character and as yet do not present a stable range of services, but rather more or less reflected selective approaches. The numbers of participants reached by the products investigated range at best in the lower four-figure sector. This is nominal in comparison to the potential of about 300,000 open to education (at a conservative estimate 1% of this population group). The services available can hardly be described as formally consolidated eLearning courses, providing for the attainment of coherent defined knowledge. It is more a case of informal learning courses, in which the learning is a concomitant phenomenon of topic-related communication on the Net. As yet there is also no discernible consolidation on the didactic level. The principle which predominates here is that elderly people have a fear of contact. Prejudices against the computer as a medium can be overcome most easily if

they are directly confronted by them according to the principle of »learning by doing«.

Initial pilot studies on suitable learning environments for the elderly have begun; no results are however available so far. The attempt to develop services which are sustainable while at the same time covering costs has to date been allocated a subordinate role. First signs are identifiable showing how the various components of eLearning for the elderly could be coherently pieced together to form a complete system.

Outlook

There are hardly any target group oriented services available for elderly people at the moment. Correspondingly, few target group oriented education and implementation concepts have been applied to date or are currently under development. However, despite the current lack of consideration of target group-specific needs for elderly people, an extension of the target group orientation can in future also be expected in service development. The main driving force here is demographic development and its accompanying general increase in the importance of elderly people as a target group for entertainment and further education. A closer linking of entertainment and education, or edutainment, already widespread in the target group of children, still remains to be developed for elderly people.

It is also important to note that the most frequently offered topics on the eLearning market do not yet coincide with the education preferences of the target group. These preferences point to a high potential for edutainment, as topics such as art, culture, theatre, health and nutrition are predominantly requested. Moreover concerning the potential lowering of access barriers to education through eLearning, there is still insufficient discussion of the provision of technical support where mobility is a problem or assistance for visual and audio faculties or consideration being taken during the development of applications. Further potential can be found in the implementation of eLearning in connection with specific learning content, e.g. coming to terms with the ageing process, learning associated with social interaction or the (virtual) participation in society when one is physically impaired or one's mobility is restricted.

Organisations which want in future to be successful in the adult education sector must dedicate themselves more intensively to the complex of eLearning for the heterogeneous target group of the elderly. Thus far they have been mostly lacking the specific technical-organisational competence required to successfully



address this target group. The high pedagogic, technical and also financial expense required may have so far scared off potential providers. One problem is partly however also a lack of imagination as to how education, the use of new technologies and the target group of the elderly can be successfully linked together.

Positive experiences with eLearning services for elderly people – in so far as there are any – in Germany as well as in other European countries show that corresponding services are successful when institutional anchoring is secured, when they are linked to existing competence networks and corresponding service points can be used. The (little) experience to date substantiates the fact that elderly people who are interested in further education are particularly interested in types of co-operative learning involving the use of specific, context-related media teaching and learning products. In this respect it is necessary to further develop the co-operation which can be observed in successful eLearning approaches between eLearning specialists and educational institutions with experience of the elderly.

SPHERES OF ACTIVITY AND REQUIREMENTS FOR ACTION

Firstly, lifelong learning is gaining in importance for one's personal way of life and development of competencies. At the same time this concept meets the central requirements in economic and social life on the road to a knowledge-based society. As a result the present report is able to show that in this context eLearning constitutes a meaningful supplement to traditional forms of teaching and learning, and at the same time the target group orientation of eLearning services in particular has an important role in the differentiation of the development of services. eLearning is a broadly applicable and very individual learning instrument, which in addition to the respective learning context also takes the different preconditions of the respective user into consideration when planning content.

On the whole however, there is a universal necessity for further consolidation of the subject. Target group-specific needs as well as specific use and application contexts for the various eLearning instruments in the context of learning and education have been insufficiently investigated until now both for children and in particular for the elderly. These have not been accordingly considered in the development of relevant applications and services. From this arises the need for action.

Children

In principle a more far-reaching differentiation of the target group of children and adolescents with regard to different learning preconditions is important to counteract the reinforcement of social inequalities brought about by media use with the aid of specific pedagogic approaches. Educational sciences, computer science and media education should undertake a more selective *evaluation of educational software*, which does not only measure the success of its implementation, but rather takes account of the different age groups, varying didactic approaches, learning theory contexts as well as pedagogically created learning environments.

Access and usage preconditions are not always given at home and school is too poorly equipped as a location to compensate for this. The following advice results from this for the sectors of research, school, teacher training, parents as well as extracurricular contexts:

- > Research: There is a need for research which provides reliable and above all differentiated data on the use of computers and the Internet by children of pre-school and primary school age to be initiated and funded.
- > School: Courses imparting media skills need to be offered more intensively by schools in particular to children from underprivileged educational backgrounds in order to lay the foundations for active participation in beneficial eLearning courses. This is above all a challenge for the schools, to make appropriate opportunities for experiencing and learning available to children at an early age.
- > Teacher training: In this connection attention also needs to be drawn to the inadequate preparation of teaching staff for these tasks during training. Only few training courses at universities prepare prospective teachers covering content-related, didactic and technical aspects of the use of computers and the Internet in the classroom.
- > Home use: Parenting must concentrate increasingly on children not only using consumer and game-oriented products when using computers and the Internet, but also on increasing their awareness of the information-oriented use.

In the field of informal learning, thus for example in extracurricular pedagogic contexts, the question should be increasingly considered, as to whether children from socially disadvantaged families are (could be) reached or better reached with eLearning services.



Elderly people

An analysis of the market for eLearning services for elderly people shows first of all that eLearning products hardly exist or are only cautiously marketed. Secondly the market also seems relatively confusing: The services are strongly concentrated on (information) technical subjects; there is a lack of services which are related to life conditions (e.g. learning to age, health and prevention). Education and the learning of specific content have as yet only found expression in very few of the providers' product development and marketing activities. A clear definition of the aim of the respective services or the instruments employed is also necessary (which group of the elderly is appealed to, what prior technical knowledge has to be taken into consideration, and what content is to be conveyed?) as well as a conclusive evaluation concept that accompanies the respective projects right from the beginning.

In terms of the development of concrete eLearning services the following pointers can be given among others:

- > Age-specific courses which are supervised both in style and intensity by a tutor are preferable to unsupervised courses. The supervisors should have undergone target group-specific training.
- > Attention should be paid to the constructive social embedding of the eLearning course, which should take both fellow learners and supervisors into consideration in the respective learning context.
- > Didactic concepts must make allowances for the learning experience of the elderly. Content should be processable in small steps and opportunities given for experimentation. Consideration of the thematic interests of the elderly is indispensable.
- > The technology should be set up in such a way that it cognitively takes a back-seat and does not constitute a permanent obstacle. Technical environments should be reduced to their absolutely necessary functionalities. Hardware and software must be fault-resilient or secured against accidental operation.
- > Elderly women frequently have different focuses of interest than elderly men, which is why apart from content, socio-economic and structural points of view gender-specific adapted courses are required.

Even more than for the target group of children, intensified *research efforts* are necessary for the target group of the elderly. These have partly to gather saved information and differentiated data for the first time ever, to identify the prerequisites for the use of computers and the Internet – and thereby active participation in eLearning courses – which establish the target group of the elderly and



which interests and ambitions they pursue when using eLearning in the context of lifelong learning.

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