

e-Learning and undereducated learners: barriers and opportunities

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Abstract: Traditional forms of learning are progressively being transformed into innovative and ICT-oriented models of e-learning. Several assumptions are made to reason this change. First, it is argued that the advanced availability of e-learning facilities will lead to an increased participation in learning because of easier and more flexible access to learning opportunities. Second, it is presumed that the integration of ICT in courses will compel learners to use ICT. Consequently, learners with low digital skills will automatically improve their digital skills. This study focuses on the relation between these assumptions and the opportunities of e-learning for undereducated people. Theoretically, the study is based on recent insights concerning 1) motivational issues related to learning; and 2) digital literacies. Several focus group interviews with undereducated learners and in-depth-interviews with the course tutors were conducted. The results show that undereducated groups participate less in learning because of negative experiences with education in the past and low levels of confidence in their proper intellectual capabilities. The results also indicate that the enhancement of ICT-skills is not assured unless special attention is given to the individual use of ICT throughout the e-learning course.

Keywords: e-learning, learning divide, digital literacies, button anxiety, undereducated learners

Introduction

The last few years adult education settings show a transition from traditional means of education – classroom, teacher, and a receptive audience – to ICT-based means of education – web based courses, individual, and an (inter)active audience. Such ICT-based education facilities are referred to with *e-learning* or *blended learning*. In this study *e-learning* is conceptualized as “*services which are delivered, enabled or mediated by ICT for the purposes of delivering education, and the technology and services which help create, manage and deliver those activities.*” (ICT Strategic Plan, Oxford University, 2005-2009) The notion of *blended learning* refers to the combination of traditional education settings with ICT-based education. (Europace, 2003) Several reasons are brought forward to justify this transition. Firstly, it is stated that e-learning leads to an extended offer of learning opportunities because it enhances the accessibility of learning opportunities by providing easier and more flexible access via the Internet. Hence, adults’ participation in education will increase because the extended offer enables potential learners to choose a course schedule that suits their daily routines and needs. (Selwyn & Gorard, 2003) Secondly, e-learning makes time and space barriers meaningless because education is no longer restricted to traditional course settings,

meaning organized in a permanent education center from nine to five or in the evening. Instead an anytime, anywhere and anyhow learning environment emerges that allows people to learn whenever and where ever they want. This enables them to combine work, family, leisure and education in a more suited way. (Europace, 2003; William et al., 2001) Thirdly, e-learning is brought forward as an ideal way to enhance the digital skills of learners in general. By implementing a blended learning approach – e.g. integrate ICT in each available course – learners are obliged to use ICT and can thus continuously improve their digital skills throughout non-ICT related courses. (Europace, 2003; VDAB, 2004)

On the one hand undereducated people are amongst those social groups that are most in need of additional education. Obtaining a higher education level would significantly increase their chances on the job market. On the other hand undereducated people are amongst those social groups that are most susceptible to digital exclusion. They very often lack digital skills and could thereby benefit largely from additional ICT-courses or blended learning courses. Consequently, different questions arise about the actual added value of e-learning facilities for undereducated learners. First, regarding participation the question remains whether an extended offer of education opportunities via e-learning equals an increased level of participation amongst undereducated learners? If not, what elements hamper their participation? Second, do time and space become really meaningless? Are undereducated learners in the ability to learn anytime, anywhere and anyhow or are there any elements that need to be in place in order to enable undereducated people to engage in learning activities? And third, does the integration of ICT automatically lead to an improvement of digital skills? Is the obligatory confrontation of undereducated learners with ICT not too difficult and in a way does it not represent an insurmountable barrier for these undereducated learners?

The theoretical framework of this study is based on two aspects. In the first place it takes into consideration recent insights regarding the notion of *learning* and how it relates to undereducated and disadvantaged groups. In the second place the study gives a closer look on recent developments in the field of *digital divide* research and the difficulties undereducated and disadvantaged groups encounter when confronted with ICT.

An empirical research project was launched in collaboration with VDAB, the public employment service in Flanders, and consisted of several focus group interviews with undereducated learners engaged in a blended learning course at VDAB. In addition, in-depth-interviews with course tutors were conducted in order to contextualize the experiences of the undereducated learners. Also, respondents were asked to fill in a short survey regarding some essential socio-demographic characteristics (age, family constellation, income, gender...), several ICT-related indicators (access and skills) and current attitude towards education and the integration of ICT in education.

The survey shows that 65 percent of the respondents has Internet access at home in spite of the fact that more than 92 percent is undereducated and unemployed. Half of the respondents have no experience what so ever with computer and Internet. When asked how the respondents evaluate the integration of ICT in non-ICT related courses 81 percent considers the integration as something positive. This also applies for the majority of the respondents that are older, those without home access to ICT or those without ICT-skills. Hence, results indicate that nearly 20 percent rejects the integration of ICT in education in general but the survey does not bring forward specifically in which groups or why this negative attitude occurs.

Technological determinism: access to education as a solution

The idea that extended access to learning opportunities will automatically lead to an increased participation in education reflects a highly technological determinist view that does not take into consideration other aspects that influence – positively and negatively – the participation in learning. This dominant determinist view on access consequently leads to policy solutions that merely focus on access to ICT and access to learning opportunities. (Crowther, 2000) Research however shows that once problems of access have been resolved motivational issues arise. Just providing increased access to education is insufficient to motivate people who do not wish to learn to engage in education. Instead several issues hamper participation, especially amongst undereducated learners. (Cawet, 2002; Cedefop, 2003; Crowther, 2000; Fathaigh, 2002; Selwyn & Gorard, 1999, 2003; Tyler-Smith, 2006; William et al., 2001)

Learning divide

There exists a so-called *learning divide* that indicates that due to several reasons undereducated and underprivileged groups engage less in education. (Crowther, 2000) First, the impact of previous school experiences appears to be of high importance. Negative school experiences in the past prevent people from re-engaging in education. For people who were the victim of bullying, who obtained bad school results or who were confronted with learning difficulties education is inevitably accompanied by negative emotions and experiences. Why should someone re-engage in education if this brings about unwanted and harmful emotional conditions? (Crowther, 2000; Tyler-Smith, 2006) Several respondents indicate that they were afraid to re-engage in training because they had “*the fear that it would again be as bad as what they experienced in school before*”.

Personal issues constitute a second barrier. Participation in education is drastically limited because of low levels of self-esteem and a lack of confidence in one’s proper learning capabilities. A vast number of individuals do not consider themselves as potential learners in spite of sufficient access to learning opportunities. This issue becomes more prominent as age increases, education level is lower or learning difficulties are more present. Moreover, the older an individual gets the less confidence he has in his intellectual capabilities and the more he considers learning as problematic. (Gareis, 2006; Tyler-Smith, 2006) Also, the actual limitations of one’s intellectual capabilities hamper participation. Several respondents state that they were obliged to drop out of previous courses because the courses were too difficult.

“I had to opportunity to study but I couldn’t do it, as a consequence I positioned myself offside ... but I had to quit because I was not able to ... I will never be a professor.”

Motivation is a third barrier. A significant number of people indicate that they do not acknowledge the added value of education and that they see no reason to engage in education. Research by Cedefop (2003) shows that 70 percent of adults does not participate in education. Nearly 40% indicates *not interested* as a reason for their non-participation. In most cases people who show a low interest in education are those who dropped out of education prematurely, have ended up in unemployment and hence, have lost all confidence in their learning capabilities. (Selwyn & Gorard, 1999) On the one hand respondents acknowledge a lack of skills and the fact that additional training is needed to improve their skills. On the other hand respondents show few willingness to engage in additional training. Asked if and why they participated in additional training in the past, most respondents indicated that they

did not engage in learning before because *they did not need it*. The results show that the majority of the respondents did engage in their current VDAB-course because of an obligatory invitation by VDAB. Refusing to engage in the course could eventually lead to the overall suppression of their current allocation.

“They told me I should come to this course and I just didn’t want to lose my allocation, so ...”

A fourth barrier is created by the rejection of formal education as a whole. Because of the reasons mentioned above – negative experiences in the past, a lack of confidence and skills and a lack of interest in education – a vast majority of individuals show a severe aversion of formal education. Instead, they prefer informal education settings in which they can learn in a more autodidact manner. (Crowther, 2000; Williams et al., 2001) However, mainly formal education institutions develop and implement e-learning and blended learning facilities. Also, places that provide alternative access to ICT – for e-learners without home access to ICT – are mostly embedded in formal institutional settings like libraries or schools. (Williams et al., 2001) Both arguments imply that the aversion towards formal education as a whole is even so important in an e-learning context. Merely providing access to education opportunities does not change the negative attitude towards formal education as such and ultimately does not lead to an increased participation of people who do not wish to engage in formal education courses. (Williams et al., 2001)

As a consequence increasing adults’ participation should be obtained not by increasing access to learning opportunities but by eliminating motivational and other barriers that explain why people do not engage in learning. Non-participation in education is not mainly the result of a lack of access to learning opportunities but of a lack of interest in education at the level of the individual. (Selwyn & Gorard, 2003; Williams et al., 2001) A decisive question is whether the integration of ICT in education changes this situation? Research shows that the integration of ICT in education was brought about by education institutions and policy makers and not at the demand of individual learners. It is therefore not certain that the integration of ICT will automatically lead to increased levels of participation. (Fathaigh, 2002; Williams et al., 2001)

Matthew effect of e-learning

Current engaged learners are mainly young, male, high educated and have an active job status. (Selwyn & Gorard, 2003) They need additional training the least but participate more in education and receive more training opportunities within their work environment. At the same time they have more access to ICT, possess more ICT-skills and show a more divers and strategic use of ICT. (van Dijk, 2005; van Deursen & van Dijk, 2009) As a whole currently engaged learners find themselves in a more favorable position than undereducated and underprivileged groups that in reality need additional training the most. Underprivileged groups however participate less in additional training and also receive less training opportunities in their work environment. (Gareis, 2005) Furthermore, underprivileged groups encounter the most problems regarding ICT. They have less access to ICT, possess less-ICT skills and show a more leisure-oriented use of ICT. (van Dijk, 2005)

Research shows that currently engaged learners can e-learn more easily and more frequently because they are already engaged in learning. Hence, they can intensify and diversify their learning activities via e-learning. e-Learning resources facilitate current learners to engage in learning and enables them to continuously improve their social position. As such the

differences in social status and participation between learners and non-learners become more pronounced and could lead to exclusion mechanisms affecting poorer, elderly, unemployed and digital illiterate individuals. (Fathaigh, 2002; Gareis, 2005)

e-learning and the digital divide

As already mentioned previously the relation between disadvantaged groups – people in poverty, individuals who are undereducated, have a low income or have an inactive job status – and ICT is rather problematic. Problems occur at each of the four levels described by van Dijk (2005): material access, mental access, usage and skills.

Material access

Research indicates that material access to ICT is a first issue. In order to succeed an e-learning course material access to ICT is a prerequisite. (The Australian Institute for Social Research, 2006) Research shows that material access is highly problematic for underprivileged groups. (Mariën, 2007; van Dijk, 2005; Vranken & Vandebosch, 2007) They state that it is not only about having the financial means to buy a computer but also about being able to pay the monthly subscription for an adequate Internet connection. Also, secondary costs for a printer, ink, paper or storage materials like USB-sticks or CD's need to be added. (Mariën, 2007) The empiric part of this study shows that most respondents have home access to a computer and the Internet in spite of the fact that they are undereducated. This can be explained by the fact that most respondents belonged to had a household that consisted of two incomes instead of just an allocation as only income. For certain undereducated learners, solely depending on one allocation as household income, material access appeared to be a major barrier to the use of ICT and the use of e-learning facilities.

“Buying a computer is expensive ... my wife and I already have difficulties to reach the end of the month ... I'm unemployed now, my wife is working ... I can just pay my rent, there is nearly nothing left ... and then say: I'll take an Internet subscription ...”

Motivational issues

Apart from material access, motivational issues also hamper take-up of ICT. (Hargittai, 2004; van Deursen & van Dijk, 2009; van Dijk, 2005; Verdegem & Verhoest, 2009) Consequently, a lack of motivation to use ICT also limits the engagement of individuals in e-learning. This is partly caused by the fact that people belong to homogeneous ICT-poor social networks, meaning networks that reject or do not use ICT, hereby lead to few or no usage opportunities for its' members and providing no social support to stimulate the use of ICT. (Brotcorne et al., 2009; Moreas, 2007; Mariën, 2007; van Dijk, 2005; Selwyn, 2004; Haddon, 2006; Bakardjieva, 2001; van Dijk et al., 2000) Access to ICT alone is not sufficient to make people use ICT. Different respondents state that in spite of home access to ICT they do not use the available ICT.

“Why should I need a computer and the Internet? I've been able to manage 50 years without, so ... I never felt the need to use it ... the computer is available but I've always kept myself far away.”

This study shows that the power relations within the home hinder the use of ICT to a great extent. Especially in the case of women their ICT-use is limited or prohibited by the children or the partner. Either there is no time to use the computer because the other family members occupy it constantly, either the other family members emphasize the errors the mother could possibly make while using the computer. Hence, they perpetuate the button anxiety of the mother leading to a situation in which the mother no longer dares to use the computer by fear of making a technical mistake that is beyond repair. Motivational issues can also have a positive effect on the take-up of ICT. Several respondents state that their interest for ICT came once they acknowledged the usability and added value of this use in their daily life.

Usage differences

The differences in usage between advantageous and disadvantageous groups are considered problematic because once again the Matthew effect plays. High skilled, high-educated and high-income groups have more access to ICT and more ICT-skills. They also belong to more divers and ICT-rich social networks. As a result, advantageous groups have more opportunities of use and more resources that support a diversified use of ICT. This enables them to use ICT in a more strategic way and gain important benefits of their Internet use. (Barzilai-Nahon, 2006; Brotcorne & Valenduc, 2008; DiMaggio et al., 2001; Hargittai, 2004; Livingstone & Helsper, 2007; Selwyn, 2004; van Dijk, 2005; Warschauer, 2003) Disadvantaged groups on the other hand show a more leisure-oriented use of ICT, which means that they use the Internet more to play games. They succeed less in using the Internet to their advantage or to improve their position within society.

Button anxiety

Skills differences are part of the reason why usage differences occur. (Mossberger et al., 2003; van Dijk, 2005) Research on the attainment of digital skills is still scarce but results show that high educated, high-income groups have excellent operational and formal skills meaning that they know very well how to use a computer and the Internet and are able to handle and operate the complex structure of the web without significant difficulties. In addition, they have very good informational and strategic skills. This means they have the necessary attitude and competencies to search, locate, critically evaluate and use the Internet to their advantage. Underprivileged groups on the other hand show lower attainment levels of each of these four skills. (van Deursen & van Dijk, 2009) A reoccurring issue is the so-called button anxiety. (Mariën, 2007; van Dijk, 2005) This refers to the fear that exists amongst certain non-users to merely touch let alone use a computer. The idea of using a computer is inextricably accompanied by feelings of anxiety and fear. Button anxiety occurs mainly amongst elderly and undereducated individuals, which is confirmed by the empirical part of our study. In each focus group was at least one person that showed severe signs of button anxiety.

“I’m afraid that when I start the computer I will do something wrong, that I will delete something ... if that thing falters I shout, it overwhelms me ... I get all anxious and then it is also confirmed ‘look, I’m incapable to use it.”

Research indicates that button anxiety can be overcome by small-sized ICT-courses of no more than 6 participants in which new skills are taught in a step-by-step way, with numerous repetitions and at a very slow pace. Also, a personalized approach of the course tutor towards the learners is indispensable. (Mariën & Van Audenhove, 2008)

Attainment of digital skills via blended learning

One of the reasons behind the implementation of blended learning is to oblige digitally illiterate learners to use ICT throughout non-ICT related courses. It is presumed that this mandatory confrontation with ICT ultimately leads to an improvement of the digital skills of these learners. However, our empirical study shows that learners that need to use ICT for learning purposes in an education center mostly work in a group. Moreover, results demonstrate that the most illiterate individuals take the fore in the use of ICT. The learners with the lowest level of ICT-skills show a more passive attitude and mainly observe the actions that are undertaken by the other learners than carrying out actions themselves. At the same time *digital divide* related research indicates that the acquirement of digital skills is mainly the result of individual sessions of trial and error. (Moreas, 2007; van Dijk, 2005) Consequently, a blended learning approach as such is not sufficient. Instead, learners engaged in a blended learning course need to use the available ICT individually. Also, their use and progress regarding digital skills should be closely monitored.

e-learning: learning anytime, anywhere, anyhow?

Education institutions and policymakers tend to focus solely on the opportunities of e-learning – e.g. the creation of a more flexible and easier access to learning that enables individuals to freely choose a course subject and learn whenever this suits them most. Research shows that this cause-effect relation is not that straightforward for adult learners and that different problems occur that hamper learning as such. (Fathaigh, 2003; Haythornthwaite & Kazmer, 2003; Vlaamse Onderwijsraad, 2006; Williams et al., 2000)

Online learning versus offline responsibilities

The numerous responsibilities of adult learners are a major issue. Most adults experience a lack of spare time because they are confronted with an overload of responsibilities besides their learning activities. As a consequence different problems occur at the level of the interaction between their so-called on- and offline life. (Haythornthwaite & Kazmer, 2003; Williams et al., 2000) Individuals engaged in an e-learning course while employed see themselves obliged to put their learning needs to the fore and this to the disadvantage of their offline activities like employment or social life. This is called the *neglect and repair* principle. It refers to the fact that certain activities and responsibilities are temporarily dismissed or neglected in order to allow enough time for necessary learning activities. Once the learning activities are dealt with individuals re-engage fully in their offline activities. (Haythornthwaite & Kazmer, 2003) If an e-learning course is too time-intensive compared to the available spare time and offline responsibilities, the e-course will most likely be abandoned. The same happens when people apply the so-called *cramming* principle. This means that there is no longer a prioritization of occurring responsibilities, which leads to a situation in which individuals continuously mix their different tasks, responsibilities, and off- and online world. For example, in such a situation the bedtime is replaced by work and/or study. It goes without saying that this has a negative effect at the long term. (Haythornthwaite & Kazmer, 2003)

The empirical part of our study confirms the difficult relation between learners' responsibilities and learning activities. Especially women consider participating in training impossible because of the combination of work, family, household and social engagement.

They state that *“when you have a family and a fulltime job, there is no more time left for a course”*.

“That I can learn at home is easy, but I don’t want to be obliged to do so ... because than it becomes too hard for me, I also have a private life at home, I’m no longer twelve years old so I only need to be busy with my homework.”

The majority of the female respondents only engaged in their current VDAB-course after significant changes took place in their daily routines: they became unemployed or retired, or their small children have grown up to be independent adults.

“I always said: if ever I get unemployed, I will follow a course because then I will have the time to do so.”

Previous elements indicate the importance of *time management* skills. Being able to organize the different responsibilities one has as a learner within the available time is a crucial prerequisite to the achievement of an e-learning course. (Fathaigh, 2003)

Education centre versus home – finding a suitable learning environment

Our research shows that not all undereducated learners can learn whenever and wherever they want. In order to be able to learn some conditions need to be fulfilled. Learning demands for a particular atmosphere – silence, space, serenity – or a so-called *learning environment*. Several respondents indicate that finding such a learning environment in their home surrounding is rather difficult.

“At home you need a silent place, where nobody passes by, in your room or in the attic, ... you can’t learn in a kitchen or so ...”

There is a vast number of undereducated learners that reject the idea of their home environment as learning environment. They state that their home as such should not function as a learning environment. Learning is something that is done at an education centre and not at home. For these respondents providing more and easier access to education via the Internet will not increase their engagement in learning.

“Home is home ...in the evening they should leave you alone ... I don’t want to be occupied with learning at home.”

However this is not the case for all respondents. Some state that learning at home is more suited because they can concentrate better and hence, learn more and easier. Other respondents clearly prefer learning in an education centre because it brings about several advantages. First, assistance is always immediately present. At all times questions the course tutor or the fellow students can be consulted for additional questions or further explanations.

“I prefer to come to the education centre, it gives me a greater feeling of security, when I don’t understand something, they explain it again.”

Second, attending a course at the education centre means there is an immediate obligation to follow the course and stay attentive throughout the course. As such a suitable learning environment is instantly created and problems regarding discipline can be avoided.

“At home you just can’t combine it, here (cfr. the education centre) you are in the right environment and you associate immediately with the course ... when you are here learning goes naturally.”

Importance of learning styles

Apart from finding a suitable learning environment, our study indicates that different people have different learning styles. Every individual has his own personal learning style that determines in which way and by use of which learning materials he learns best. Some learn best by repeating their lessons out loud, other understand things better when shown on video or directly taught by a teacher. Several respondents show a clear preference for audiovisual learning materials. Being shown on tape how to perform certain tasks appears to be more comprehensive for undereducated learners than guidelines written down in a course book.

“You see your mistakes ... if you execute them yourself you don’t see it, that is why I like videos much better because than you see what they do and you understand your own faults better.”

Certain learning materials bring about perverse effects. For example, one of the VDAB web learning courses that is only accessible online provides audio-files of the course content for non-native Dutch-speaking learners. Reality shows that even the native Dutch-speaking learners prefer to listen to these audio-files instead of reading the course content on the screen. The course tutors question the effectiveness of this system because they noticed that all students take a passive and lean-back attitude when listening to the course content instead of reading it. When consulting a textbook or reading at the computer screen most students take notes or summarize the course content. This is not the case when they merely listen to the online web course. Moreover, they become so-called *coach potatoes* and show the same behavior as when watching television.

“During the web course you don’t take notes, everything is already done by the machine, in fact you don’t need to do anything anymore, you don’t even have to read, you can push a button and then there is this lady who reads everything for you ... but the web course, it doesn’t really stay in your head.”

Autonomy and discipline as a preconditioned attitude

Engaging in e-learning implies a whole lot of freedom and choices – what, where and how to study. Making these decisions demands for a positive attitude towards the notion of learning. It implies that individuals are willing to learn and engage themselves in learning without obligations or directions from third parties. It is hereby assumed that people make these choices in a rational way and decide about these choices in accordance with what is most needed or brings the most added values. As 70 percent of adults do not participate in

education and a vast majority is under educated and hence, should benefit significantly from additional training, this assumption needs to be studied further. (Cedefop, 2003)

Rationalized autonomy

Policies to increase adults' participation in learning too often depart from the theoretical idea of rationality. It is assumed that every individual will choose according to his most urgent needs. For example, someone is undereducated; hence, he will engage himself in additional training. An individual lacks the necessary ICT-skills; and consequently, he will freely engage in a computer and Internet course. (Cawet, 2002; Fathaigh, 2003; The Australian Institute for Social Research, 2006; Vlaamse Onderwijsraad, 2006) Moreover, research indicates that such rationalized and self-motivating behavior is a prerequisite to succeed an e-learning course. (The Australian Institute for Social Research, 2006) The competences to handle choices on what, where, how to learn determine the ability to achieve. Several studies indicate that people with learning difficulties, limited literacy levels or inadequate background knowledge often lack this rationalized and self-motivating attitude. (Vlaamse Onderwijsraad, 2006)

Our research shows that most undereducated learners do not automatically act or react in such a rationalized way. In the first place practical issues influence the choice to engage in a course. As mentioned before people engage in education because of significant transition in their daily routines for example by becoming unemployed or retired. This influence can be positive or negative.

"I won't do a follow-up course when I'm working fulltime again. Working all day, then run a family, which is also a job, and I'm over 50, and then another evening course, no, I don't think so."

In the second place, the study show that the majority of the respondents became engaged in learning on initiative of a third party like for example their VDAB consultant, relatives or friends. Also here, this influence can be positive and negative.

"At first I wanted to do a painting course, I already registered but I didn't do the course because my friends thought it was something for men and they believed it would be too hard for me as a women ... now I'm doing a cleaning course and I'm next to the room where they teach painting ... and it's filled with women ... I think it is rather stupid that I listened to other people."

The lack of a self-motivating attitude amongst undereducated learners is clearly shown by the fact that the majority of the respondents did not engage in a course prior to the obligatory invitation they received by VDAB. So most learners participated because they feared to loose their allocation and not because they freely choose to engage in a course to increase their knowledge and skills. In spite of what might be expected most respondents did not condemn VDAB for this method. On the contrary, they considered it as something positive and stated that obliging people to engage in learning is allowed under certain circumstances. They clarified that the proposed course should 1) fit the interest of the potential learner; and 2) be in line with the intellectual capabilities of the potential learner.

You cannot keep pushing people, there is a point where you say: Hey I can't do more than that, it is too difficult, in that case you can't say: I'm sorry but no allocation?

Also, when already engaged in learning underprivileged groups and undereducated learners drop out easier than other social groups. The low literacy levels, the lack of confidence in their proper learning abilities and the lack of personal motivation increase the risk of dropping out of a course. (The Australian Institute for Social Research, 2006) To decrease the risk of drop out the attitude of the course tutor is crucial and should be as such that he actively supports, motivates and closely follows each learner in an individual and personalized manner. (The Australian Institute for Social Research, 2006; Tyler-Smith, 2006)

Discipline and motivation

Discipline and motivation are essential attitudes to succeed an e-learning course because it means motivating yourself to learn during hours on which friends or family members are engaged in leisure-oriented activities. Our study shows that several undereducated learners themselves indicate that they do not have the necessary discipline to study at home. Consequently, they prefer to come to the education centre to learn because in the centre they are obliged to engage and follow the course. As such disciplinary problems can be avoided.

“At home you do nothing, the distraction is too big, you are on the website of the course, it's not going so well, so you put it aside and you do other stuff on your computer ... and before you know it it's ten o'clock in the evening and you haven't done anything.”

The course tutors state that it very much depends on the person whether or not he has the right attitude and motivation. Some learners are very motivated, always deliver their work on time whereas others need to be reminded and pushed constantly. This clearly indicates that even in case of an e-learning course, the importance of a course tutor should not be underestimated.

Conclusion

This study clearly shows that the assumption that e-learning automatically leads to a higher participation rate of adult learners is false, especially in the case of undereducated individuals. In the first place the motivational barrier is too high. Personal issues like negative school experiences in the past, learning difficulties or a lack of self-esteem and self-confidence prevent undereducated individuals from re-engaging in any learning activities. The main challenge for policy makers and education institutions is to incite people who are not motivated to re-engage in learning. Therefore a change in social and cultural attitude is needed and negative experience and emotions associated with learning need to be overturned.

A first approach should be to create positive learning experiences by developing small-sized learning opportunities in which the course tutor should give a personalized and active support to each learner individually. By so doing, the risk of drop out decreases significantly. A second approach could be to implement a *soft obligation* to participate. By *soft obligation* we refer to the approach used by VDAB as it was considered positive by nearly every undereducated learner. Undereducated non-learners that are unemployed should be invited to obligatory participate in learning activities at the condition that these activities are related to

the interests and intellectual capabilities of the potential learners. A third approach should consist of increasing the opportunities for additional training in the work environment, especially in the case of under skilled and undereducated workers who rarely get the opportunity to engage in additional training in their work environment.

e-Learning facilities do not make time and space meaningless. Instead it is made clear that the combination of different responsibilities – work, children, and household... - hamper the participation in education to a high extent. Finding a suitable learning environment is in this case particularly difficult and several undereducated learners stress the importance of an education centre to enable learning. Hence, as every individual has his personal learning style, it is also clear that e-learning and blended learning offers should not be implemented as a substitute for the existing education offer. Instead, the e-learning offer should be complementary to the existing offer so as to facilitate the take-up of learning activities. In this way each individual learner is enabled to choose amongst different learning methods and learning materials.

Finally, increasing the attainment of digital skills by way of blended learning courses is possible. However, an individual approach is necessary. When working in a group, the most ICT-skilled individual will automatically take the fore. Hence, such ICT-skilled learners should rather be included as a coach and be taught how to incite others to learn the use of ICT. Digitally illiterate learners should be pushed to use the ICT-related components of the course in an individual manner so as to learn by trial and error. This implies that additional coaching and a personalized follow-up will be needed.

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