



Immigrant Women's Reasoning and Use of Information and Communications Technology in Lifelong Learning

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Abstract

This paper explores the reasoning and use of information and communications technology (ICT) in lifelong learning by immigrant women. Data were collected from semi-structured and unstructured interviews. The study was carried out primarily in a school environment, which also makes it possible to draw conclusions about the connection between learning in and outside school environments. Most participants experienced major differences in the use of and access to ICT after moving to their new country. Most women use and access ICT, even if not of their own volition. Providing a summary of some of the benefits and barriers that emerged, our study has shown that it is important to distinguish the way someone reasons about ICT and their actual use of it. No account was taken of cultural differences between the participants' countries of origin. This study made it possible for the immigrant women to voice their experiences, knowledge, and feelings about their situations in school and in everyday life.

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Keywords: Information and communications technology, lifelong learning, immigrant women, integration, Swedish tuition for immigrants

Introduction

Using qualitative data, partly supported by an interview guide, this paper explores the reasoning and use of information and communications technology (ICT) in lifelong learning by immigrant women. ICTs have the potential to change one's economic and social status (ITU, 2003). By means of ICT, immigration can result in liberating processes, strengthening the individual by increasing their influence in decision-making processes (Vanclay, 2002), but it can also result in exclusion. An individual may lack the necessary digital skills (EC, 2007) or may be excluded due to socio-political circumstances (Winner, 1986; Bleed, 1997). As a consequence it may be necessary to take account of technical and social choices that influence people's interactions (Ren, Kraut, & Kiesler, 2007; Steyn, 2011), as well as the perception of ICT as gendered (Aaltojärvi, 2012).

Motivation of the study

A focus on women and girls can have a major impact on a country's overall development (Mbarika, Payton, Kvasny, & Amadi, 2006). There is a strong connection between the literacy and education of mothers and their engagement in the development their children (Sticht & McDonald, 1990; Weigel, Martin, & Bennett, 2006). These findings have important implications for economic growth and lifelong learning from an intergenerational perspective (World Bank, 2003).

ICT when applied is gender specific and this has a detrimental impact mainly on women (Brady Aschauer, 1999; Terry & Gomez, 2010). As a consequence, an illiterate immigrant woman without any previous ICT culture and without school attainment is likely to be slow to enrol in education in an OECD country, which is largely built on one's ability to master ICT. The process of integration may differ according to gender because of the different experiences of opportunities among men and women in working life, formal learning, or everyday life (Williams, 2009; Aaltojärvi, 2012). Immigrants may also be given different opportunities based on their status. For instance, taking courses tends not to have direct influence on employment opportunities, which in most cases benefits males in countries such as Israel, the UK, and the USA (Hartman & Hartman, 1981), whilst in other countries, such as Sweden, these policies are regulated on the basis of a residence permit:

Municipalities are required to offer Swedish language instruction to all adult immigrants who lack basic Swedish language skills...Immigrants must be given the opportunity to develop their ability to communicate in Swedish...in everyday situations...Swedish for immigrants must also prepare learners for further studies (Regeringskansliet, 2013).

Scant attention has been paid to the use of ICT by immigrants. As a consequence, little is known about the benefits of and barriers to ICT for immigrants (Caidi, Longford, Allard, & Dechief, 2007). Studies that have focused on the take up and use of ICT by immigrant women in their everyday lives suggest that further studies are needed (Atlestam, Brunnström, & Myhre, 2011; Caidi, Longford, Allard, & Dechief, 2007; Elias & Lemish, 2009).

This study explores the reasoning around ICT and use of it in lifelong learning by immigrant women whose educational qualifications are below secondary level. More specifically, the research question addressed is:

What are the major (a) benefits of and (b) barriers to ICT in lifelong learning according to the immigrant women selected?

Lifelong learning

In this paper, the concept of *lifelong learning* refers to all types and settings of learning, education, training, and self-development activities for individuals which would equip them to cope with the challenges of economic, social, demographic, and technological changes (Hodgson & Kambouri, 1999, p. 176).

For a country's competitiveness in the global knowledge economy, it is essential to create opportunities for lifelong learning (World Bank, 2003). In lifelong learning, special attention needs to be paid to the knowledge of languages, digital competence, learning to learn,¹ social and civic competences, and cultural awareness and expression (EC, 2007).

Lifelong learning is part of everyday life. Learning must be understood as a way of living in order to capture how it affects knowledge practices in work organisations (Antonacopoulou, Jarvis, Andersen, Elkjaer, & Høyrup, 2005) and in other contexts of life, such as personal life (OECD, 1999; Óhidy, 2008). Studies that focus on lifelong learning should therefore endeavour to study people's everyday lives and perspectives on life, for instance, their priorities or issues affecting their opportunities as they navigate life.

ICT in lifelong learning

ICT can support lifelong learning (Gokcearslan & Ozcan, 2011; Baris & Tosun, 2011; Camacho, Minelli, & Grosseck, 2012). Educational participation may become a personal project partly driven by technology (Selwyn, 2005). It is therefore essential to consider briefly some of the applications that may be used in lifelong learning using ICT, and how these affect women's learning. Gokcearslan and Ozcan (2011) set up their literature study to reveal the potential for change being brought about by wiki applications. Their viewpoint is that wiki is a social interaction software tool that enables users to work either alone or in collaboration with others, developing, editing, and sharing pages. This makes wikis suitable in a wide range of areas: business, academia, and people's everyday lives. Wane (2001) provides a comprehensive picture of the everyday life experiences of rural women in Kenya, referred to by the author as the indigenous knowledge of Embu rural women. Wane's findings show a male-dominated society. She states that if ICT is to assist lifelong learning it has to be designed so as to take into account how these women live their everyday lives to ensure that no citizens are excluded. Hawkey (2002) argues that learning with ICT has much in common with learning in informal environments. His own experiences from Kenya show that language is a major issue in all learning settings.

Teachers must be aware of how to support the pupil or student in order for them to develop a desire for lifelong learning (Wanzare, 2002). This proved to be a challenge during the implementation of ICT in schools (Lindh, 1997). If lifelong learning for all is to become a reality, such opportunities must be catered for throughout the life cycle (OECD, 1999), "from cradle to grave" (Óhidy, 2008, p. 48). The challenge is "how teachers can inculcate good lifelong learning habits in their students" (OECD, 2000, p. 23).

Barriers to lifelong learning

Community resource centres (CRCs) or ICT in general have not always proven to be successful in providing "the have-nots" with ICT (Steyn, 2011). Such challenges as a poor literacy rate, language barriers, discrimination against women, a lack of ICT skills, financial constraints, poor infrastructure, and a lack of coordinated government initiatives have all hindered the successful use of ICT (Islam & Hasan, 2009). According to Chapman et al. (2006), barriers to lifelong learning can be categorised as personal and societal ones, barriers

encountered by the agencies which provide, and those encountered by the sector as a whole (2006, p. 155).

Personal barriers can be related to how a person lives or has lived their life. A person's life story may affect how this person interprets everything around them. These barriers are not necessarily negative. A person may be satisfied with what they have achieved and the opportunities available. In contrast, a person may not be aware of how to tackle the challenges facing their community. This view of barriers is closely related to the ontological notation of experiences suggested by Kaipayil (1995; 2002).

These barriers, however, are not one-dimensional...They often interact with one another to create complexly interlocked patterns...Redressing the situation may require changing people's attitudes towards themselves and their fellow citizens... (Chapman, McGilp, Cartwright, De Souza, & Toomey, 2006, p. 156).

Digital competence

Digital competence, as suggested by EC (2007), involves basic skills in ICT: the use of computers to retrieve, assess, store, produce, present, and exchange information and to communicate and participate in collaborative networks via the Internet. This definition parallels Lankshear and Knobel's (2006) third definition of digital literacy, namely as a set of skills or "master competency" needed in life (2006, p. 15). In addition, Ferrari (2012) understands digital competence as set of "knowledge, skills, attitudes, abilities, strategies, and awareness that are required when using ICT and digital media to perform tasks...communicate and collaborate...for work, leisure, participation, learning, and socialising" (2012, p. 30).

Ferrari (2013) proposes a *Digital Competence Framework* comprising five areas, of which we only give a summary due to the overall length (*Table 1*). Its overall aim contributes to the better understanding and development of digital competence in Europe. In the first stage, *foundation*, the person in question has basic skills in using digital resources and online resources to identify, retrieve, store, and so on, information. When the person reaches the *intermediate* level they master some of those skills in a more mature way. They also master different tools that may perform the same task. The person can also work online more often, adopting the adequate netiquette or moral behaviour, too. *Advanced* skills suggests that the person is now able to master a wide range of tools in a mature way and has a deep understanding of the difference between a set of tools, including understanding the code behind certain programs.

Table 1 Summary of Ferrari's Digital Competence Framework

	A – Foundation	B – Intermediate	C – Advanced
Information	Identify, locate, retrieve, store, organise, and analyse digital information, judging its relevance and purpose		
Communication	Communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness		
Content creation	Create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs, and programming; deal with and apply intellectual property rights and licences		

Safety Personal protection, data protection, digital identity protection, security measures, safe and sustainable use

Problem solving Identify digital needs and resources, make informed decisions as to which are the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences

Material and methods

Settings

This study was carried out in Sweden in 2013, which is considered an OECD country (WTO and OECD, 2009). Digital literacy is considered important in most situations in Sweden, including lifelong learning (SCB, 2013). The participants were interviewed and spoken with in public libraries, youth recreation centres, and public schools. The participants in the study chiefly consisted of those in two schools under the adult education programme of Swedish tuition for immigrants (SFI): Komvux SFI, S:t Olofsskolan, Norrköping and SFI Lernia, Jönköping. At the time of the study, the schools had a total of 1160 students and about 68 employees, including technical and administrative personnel, of whom 54 were teachers and one teacher was just nearing completion of his/her teacher training.

Data collection and analysis

Expert sampling and snowballing (Patton, 2002) were used to find participants and to consider ethical issues. All immigrant women studied had been living in Sweden for between 6 months and 19 years and in their countries of origin for between 18 and 60 years. The education level of the participants ranged from no education to secondary education. In order to ensure that the same basic lines of questioning were put to each person interviewed, and in order to interview these people systematically, and to allow individual perspectives and experiences to emerge, an interview guide with topics formulated beforehand based on previous research was developed (Patton, 2002). Even though the topics had been chosen in advance, those topics were further explored to lessen the possibility of omitting important or salient topics or issues which had not been anticipated beforehand (Patton, 2002).

Interviewing and life-story interviewing were performed in Swedish, English, Portuguese, and Spanish. A limitation, therefore, is that not all participants were able to communicate using their native language. Some of the questions had to be put to participants twice. For this reason it is possible that the meaning of some of the questions may have partially eluded participants. Interviews were either recorded or written down with pen and paper.

When using the life-story interview, also referred to as story-telling, there is a risk that the teller may present a fabricated story. Gubrium and Holstein (2001) suggest that this does not necessarily represent a disadvantage, however, but rather an opportunity for the interviewer, who could include an interpretation of the purpose served by the fabricated story for the storyteller. Whether an opportunity or not, a major concern is how the interviewer will know or understand whether, or to what extent, the story is fabricated. Using the life-story interview, we tried to be prepared for "unexpected" telling (as per definition all answers or stories are unexpected) and for the impact the respondent's story might have on the interviewer (Gubrium & Holstein, 2001).

Using the life-story interview, 1) we tried to seek the personal relevance of the story, and 2) we regarded the life story as a text like any other document.

In total, 16 immigrant women born in Bolivia (n = 1), Brazil (n = 1), Burundi (n = 1), Cameroon (n = 1), Eritrea (n = 1), Ethiopia (n = 1), Kenya (n = 1), Uganda (n = 1), Sierra Leone (n = 1), Sri Lanka (n = 1), Thailand (n = 1), and Somalia (n = 5) were interviewed.

The data were selectively transcribed with NVivo. In doing so we came to the same conclusion as Welsh (2002): a combination of electronic and manual methods is fruitful for the process of the analysis. This may be a result of a dearth of large recorded data (Welsh, 2002). Data were noted without delay. To describe and summarise the data we use illustrative excerpts (Nilsen, 2013; Cohen, Manion, & Morrison, 2007). In this paper, we describe excerpts with regard to four settings of lifelong learning: social relations (excerpt 1), everyday life (2), working life (3), and formal learning (4).

Whilst interviews were the primary method, observations complemented these interviews (Cohen, Manion, & Morrison, 2007). Observations were conducted by following two different classes in their lessons during two weeks in total and also outside the classroom in both schools. In this way we were able to gain a better understanding of what was said during the interviews.

Ethical considerations

Before interviewing women individually or in groups we informed not only the women but also the employees, principals or teachers, and representatives from churches of what we intended to do. We told all participants that we would get back to them before publishing any results to enable them to double-check their contributions (Cohen, Manion, & Morrison, 2007).

Results

Providing a summary of benefits and barriers that emerged (*Table 2*), our study has shown that it is important to distinguish the way in which someone reasons about ICT and the use of the same. To support this conclusion, we highlight excerpts from four settings of lifelong learning that emerged, namely ICT in social relations, everyday life, working life, and formal learning.

Table 2 Major benefits and barriers to ICT in lifelong learning

Settings of ICT in lifelong learning	Benefits	Barriers
In social relations	SNS, telecommunication, email with friends; maintaining contact with family members far away; not being alone	SNS causes trouble with friends
In everyday life	Entertainment; “you cannot live without a computer”	Difficult for learners with lack of digital literacy to learn alone
In working life	Job seeking; receiving information from employer; executing duties on the move	Lack of knowledge about how to set up or use email account

In formal learning

Tablet computers increase motivation to learn, in particular for illiterate learners; digital solutions for learners with special educational needs; informal learning

Difficulty working on desktop computers and text-based applications

SNS=social networking site

Excerpt 1: ICT in social relations

Participant (P) 1: In fact, I don't chat. I write at the most, on Facebook, for instance. When I arrive home, maybe I write I have met with someone and what we did and so on. Sure, I usually read and comment to my friends ... computers are useful in order to communicate, so, I use Facebook a lot.

P2: I have a computer at home. But I don't use Facebook. I only use the [website] Digital Track, practising Swedish.

P3: I don't like Facebook because I ran into trouble with my friends back home. I opened an account but closed it. But now I write to my friends using SMS on my mobile instead.

Author (A): Why did you run into trouble?

P2: My friends, they just "bla bla bla". Also I have little patience with Facebook: "Hi! bla bla bla ..." [imitating her "friends" on Facebook]. Sometimes I forget to answer and my friends go: "Why don't you answer me? Why, why?" I go: "I'm sorry, I'm sorry." I've all the household chores like children, cleaning, my husband, etc., etc. I have a lot to do.

P3: Your husband works in Sweden?

P2: Yes, he lives in Sweden but he doesn't work. He doesn't do very much; soon he will retire. He used to work for many years. He hasn't worked for two years.

Most participants who use the Internet apart from in formal learning use it for social activities, and mainly for social networking sites (SNSs) like Facebook. Nonetheless, the excerpt shows barriers to SNSs in lifelong learning. It illustrates why SNSs can compromise moral behaviour among friends. It also shows that the time factor is one reason why such technologies are not used: housework occupies too much time.

Excerpt 2: ICT in everyday life

P1: It doesn't matter if I have a bad hair day and it's 15 degrees below zero, because I go out anyway. I am very strong. I feel safe and secure here. Everyone respects one another.

P2: Yes, Sweden is calm and peaceful.

P3: In Sweden I believe you cannot live without a computer. I use my computer every day, always. There [the country of origin] you don't need it to manage your life, but here [in Sweden] you cannot live without it. Even when I don't have time I use it.

We asked how the participants feel and reason about security when using or accessing computers and the Internet in public locations. As participant 1 explains, she feels that she can go out and use a computer in a public setting

no matter what. All participants in Sweden agree that the security is much better in Sweden than in their country of origin. Most women who had been in school for at least one semester recounted that in their countries of origin they seldom or never used computers or the Internet, whereas in Sweden they use them often and regularly, even to the point of feeling that they cannot live without a computer in Sweden, as shown by the third participant in the excerpt.

Excerpt 3: ICT in working life

The participants who were aware of computers and the Internet felt that in Sweden the use of email is essential, whereas in their countries of origin, people may create email accounts without using them for sending and retrieving messages. Since the participants, according to their own accounts, were advised by the national job-search agency to acquire an electronic address in order to communicate on employment issues, we discussed the women's reasoning around this:

P1: [The national job-seeking agency] sends messages via the Internet, email, to which I am to respond, which I also do. So I check my mails on a regular basis I use the Internet everywhere. If I'm not at home ... I carry my iPad. I don't know much about computers so I mainly use it for job issues and Facebook.

P2: I don't think of any particular job I looked for many job opportunities among various companies last year but it didn't feel good in my heart. They say "Welcome, nice" but when they see me they look at my clothes, smile, and say "I'm sorry." That's the reality for all Muslim women: skirt and [covering the] hair. That is not so good here in Sweden.

P3: I was very hopeful when I came to Sweden. I've turned to [the national job-search agency] and they were to assist me in finding a job and I've found many jobs and I've no problem with working anywhere In my heart, I feel I want to have a certain job, but I have no problem with whatever kind of work they are giving to me.

P4: No, I haven't searched for any jobs. I remain at home. I leave my children at the day-care centre. I cannot be on the computer 'cos then I return home to do my homework, clean, cook. I have a lot of commitments.

The top job-search channel on the Internet among the participants is the national job-search agency's own website. All women stressed that they found jobs advertised on the Internet but, as the excerpts illustrate, they were not taken on. They attributed this largely to their cultural and religious origins. As excerpt 1 illustrates, one reason for not being on the computer is, again, a lack of time because of owing to housework. It is worth noting that not all women claimed to be seeking jobs. Some of them explained that they needed a better command of Swedish and/or lacked primary education from their countries of origin.

Excerpt 4: ICT in formal learning

In order to help the students, S:t Olofsskolan has set up a resource centre called the Meeting Place. During most hours, members of staff are available to help with the equipment, which includes, for example, computers, a television, copier, and projector. There are spaces for the students to use computers alone or together with others. During our visits, the Meeting Place was also used for remedial education for some students:

A: What is your general opinion about the Meeting Place?

P: The Meeting Place is good since I can be on the computer reading and translating new words. Sometimes I speak with the other students. Sometimes it is not so good 'cos many students speak their own language, making it hard to concentrate and understand, like Arabic, Somali, and English. The problem is, I do the same sometimes when I meet with someone from my own country.

Women felt confident in the help and support they are given at SFI and the services offered, for instance the Meeting Place, as excerpt 4 highlights. A barrier, however, is that the set-up may make it difficult to concentrate. Apart from the Meeting Place, the participants also valued the public library, which was considered to be an extension of formal learning in school.

Observations

Before the concluding discussion, we shall highlight some observations made which complement the interviews. The observations enhance the understanding of ICT in lifelong learning in general and in connection with formal settings in particular.

The schools visited were well-equipped and the teachers committed. At S:t Olofsskolan, teachers download applications on tablet computers, try them out, discuss them with each other, and then individualise the learning on the basis of each student's ability. Another example is the digital solution for visually impaired learners at Lernia. Using this computer, students with impaired sight can read books or work on the computer more easily.

S:t Olofsskolan uses a plan that it developed itself called "Digital Competence – A Guide", which indicates digital skills that a student has to master after the four steps (*Table 3*). The competence guide resembles Ferrari's framework but in a greatly reduced and simplified form. Its starting point is also that the person in question has no digital skills whatsoever. The guide is also connected with the currently available SFI courses, where courses A–D indicate the corresponding SFI courses. Step 1 indicates basic skills and step 4 indicates the most advanced skills. Using the guide, the participants in our study ranged from step 1 to step 3, being found on SFI courses A and B, although they usually lacked the necessary skill to search independently for more detailed information. Another common lack was that some women had electronic addresses or even Internet at home but were not necessarily clear on the use of either of them.

Table 3: Digital competence – a guide

Course A (step 1)	Course B (step 2)	Course C (step 3)	Course D (step 4)
Know digital tools for learning and communication and be able to use a computer with guidance.	Be able to use digital tools for learning and communication and to use a computer with guidance	Be able to use digital tools for learning, communication, and information seeking more independently	Be able to use digital tools for learning, communication, and information-seeking independently

Concluding discussion

The excerpts and observations illustrate benefits of and barriers to ICT. No strong opposition from the participants regarding reasons for using ICT was found. The barriers uncovered are rather the result of a lack of familiarity with ICT in everyday-life situations. If someone has lived "a whole life" without

even knowing about the existence of computers and is suddenly compelled to use one, this may make even the most enthusiastic woman to feel uncomfortable. Assuming that the use of computers, including access to the Internet, is an integral part of learning in everyday life, or that, as one woman suggested, “you cannot live without a computer”, we must set our sights on mitigating the external barriers that an illiterate woman with no previous ICT culture or school attainment may encounter.

The participants claim that having an email account is not tantamount to using it or even understanding how to use it. It is important for authorities to know about such reasoning, where it might otherwise be perceived that the person in question is digitally competent and understands how to use a computer. It is important that authorities should be aware of this reasoning to obviate the risk of their interpreting that the person in question is digitally competent and understands how to use a computer.

A majority of the participants did not clearly distinguish between the uses of ICT in various settings of lifelong learning. This suggests that ICTs are embedded in the social lives of people (Aaltojärvi, 2012). According to the participants’ reasoning, they use ICT not only because they want to but also because they feel that society exerts pressure on an individual to use ICT on a routine basis. For instance, it would otherwise be difficult to find or maintain a job. In other words, the use of ICT is sometimes perceived as *forced*.

Selwyn (2005) explores the roles information technologies (ITs) may play in supporting adults’ reflexive judgements about, and reflexive engagements with, education and learning. The trends to be found in Selwyn’s study do not differ greatly from our own. For instance, he suggests that information technologies mainly helped those who were already reflexive to continue being so. Our study has shown that authorities take it for granted that people have acquired digital literacy skills, hence immigrants with no previous-ICT culture are at risk of stagnation compared to those who have already adapted to this culture. Thus, the use of ICT in society may disempower certain groups (Selwyn, 2005). Winner (1986) has reached the same conclusion with regard to technologies in general.

The ever-increasing stream of new pages on the Internet means we can be constantly socially up to date (Henderson, 2001). It is therefore also appropriate to highlight instances of where social compulsion is seen as a barrier to lifelong learning. One of the participants said that she felt under pressure to be digitally available to her friends regularly. This is a paradox as researchers are preoccupied with the question as to whether ICT-based lifelong learning can reduce social exclusion (Webb, 2006). Webb reflects on whether “there is a social price to pay for the benefits of globalisation and the growth of knowledge-based societies” (Webb, 2006, p. 481), the price being increased inequalities between the “haves” and “have-nots”. Our study to some degree is at odds with Webb’s reflections by uncovering aspects of involuntary socialisation because of the use of ICT in a society that demands such technologies in lifelong learning.

Since women felt confident in the help and support they are given at SFI and in the services offered and the teachers appeared to spend extra time supporting students in their learning and integration, it is paramount for more resources to be allocated or reallocated to the teachers to continue or even strengthen such support.

Exchange students coming to Sweden often have a mentor or family to whom they can turn for support. A similar system could be introduced for newly arrived immigrants to serve as a natural entry point to the new society. This would allow them to put into practice more easily the knowledge gained from SFI, inducing language, cultural, or ICT matters. This study has shown that in order to understand the whole person greater collaboration between the

organisations and authorities responsible for integrating immigrants is a *sine qua non*.

Another suggestion for further research is to investigate how applications for tablet PCs may be better suited for different groups of immigrants. Most applications require learners to already be able to read and write or to already have a good command of any of the major world languages was not the case in the majority of the participants in our study.

Perhaps we need a fresh viewpoint, as Hess (2007) suggests, from which to study those aspects of integration and lifelong learning that this study has highlighted, regardless of whether ICT is the ultimate way for lifelong learning including social relations, work, learning, and everyday life. Hess suggests that our established ideas of the world sometimes need to be revised.

There is a need to delve further into the differences between factors of educational and ICT background, culture, and personality characteristics of the women, which this study has not done. Since it has been suggested that gender can be understood as being mediated by intersections of race, class, and geography (Vigdor, 2011), this study was limited by a lack of exploration into the cultural differences among the participants or their countries of origin.

¹The ability to pursue and persist in learning, to organise one's own learning, including through effective management of time and information, both individually and in groups. (Fontelles and Enestam, 2006, pp. 13–18)

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