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Maps and geographic information in a lifelong learning process

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Published in:
Mapping Approaches into a changing World

Publication date:
2005

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Brande-Lavridsen, H. (2005). Maps and geographic information in a lifelong learning process. In *Mapping Approaches into a changing World* (pp. 8). The International Cartographic Association.

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MAPS AND GEOGRAPHIC INFORMATION IN A LIFELONG LEARNING PROCESS

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INTRODUCTION



Increased globalisation means great challenges to Danish society. Some believe globalisation leaves a negative impact in that other countries have become more capable, with a resulting increase in competition. But globalisation also leaves positive traces because we have to be even more capable, smarter and more innovative.

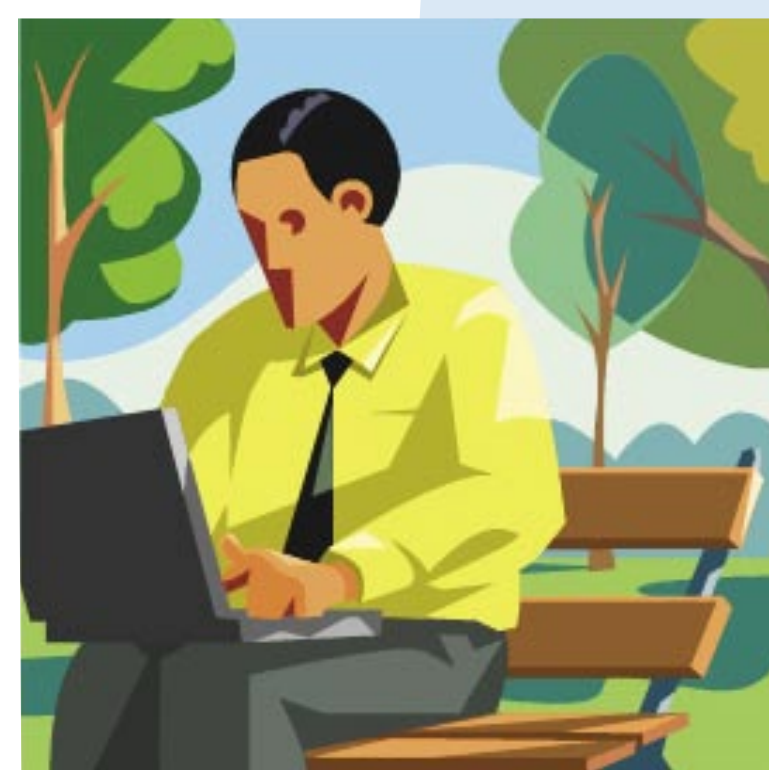
The development within the map and geodata business (private as well as public) is like the development within other businesses. Here you may then choose a negative angle and consider the development as confused and alarming or you may choose a positive angle and consider the development as challenging and full of possibilities

Politicians and the two sides of business sector, management and labour, have a partial answer to the previously mentioned negative and positive angles. They quite realise that *knowledge* in the form of ideas and creativity is the only resource we have to compete with. Consequently, we are all committed to *LifeLong Learning (LLL)* and *Continuing Professional Development (CPD)*. What you learn in youth unfortunately does not hold for life, even though your daily work is indirectly a continuous learning process.

Besides the globalisation there are also regional and local challenges in the Danish society which will influence the map and geodata sector. Besides the general technological development it is:

- EU's draft directive INSPIRE
- The draft of the government around e-Government and e-Governance and
- The coming structural changes in the form of a local authority (municipal) and county reform.

LEARNING IS NOT FOR LIFE BUT ALL LIFE LONG



GIS (Geographic Information Systems) is today a part of the IT strategy of many private businesses and public organisations. In future the need for *digital geographic information* (maps and geodata) will grow considerably, and new and different tasks in connection with the new initiatives of the Danish government will be created.

In my view all this initiatives will demand a greater theoretical knowledge of the whole field of *Geographic Information Science (GISc.)*, along with further education of many map and GIS employees. But the increased spread of geographic information also means that these employees are no longer typically people with a map and geodata background, but people with widely different backgrounds.

The means to meet the growing demands of society is to build a system of *continuing education* (lifelong learning and supplementary education). This has to take place realising that experience and competences acquired through daily work cannot, as mentioned previously, stand alone, but must be updated and developed to remain current. Lifelong learning is therefore a necessity, both to one's own execution of a profession, but also to the continued existence and development of the entire profession.

The Danish universities actually have become aware of the serious need of the highly educated, in particular, to become more competent. At the same time the universities have become better at adapting themselves to these new tasks in cooperation with lines of business and the trade.

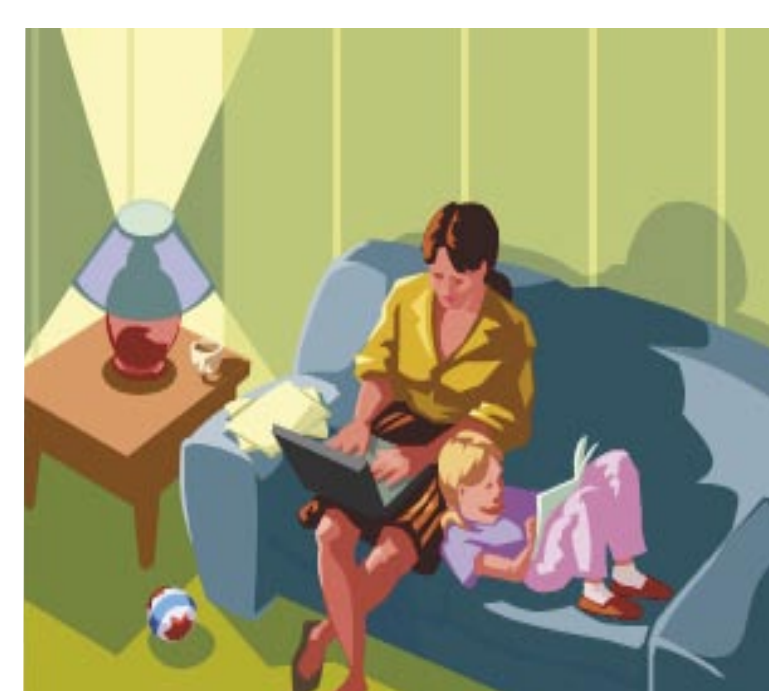
LEARNING METHODS



Education including continuing education at universities can be offered according to different pedagogical principles. We all know the traditional *on-site education*, where people meet face to face with their teacher in a physical room, and where it is

the teacher who draws and tells. It can also be called *teacher-controlled teaching*.

Learning has, however, for the last 15 years replaced the word *teaching*. The replacement reflects the pedagogical principle that it is the student or *learner* himself who has to obtain and build up knowledge and not only the teacher who transfers his knowledge to the student (understanding before rote learning). Teaching and learning do, however, belong inseparably together, teaching being the activity that creates the frames for and makes possible the learning of the students. It is called *action- or activity-based learning*. The keywords here are communication, dialogue and co-operation.



Then we have *distance education or distant learning* options which today are inseparably connected with the use of the *computer medium* and the *Internet*. We call it *IT-, network- or web-based education* or just *e-learning*. Forms of education over the Internet are a varied crowd, from well-known and conventional to complex, dialogic forms. Within

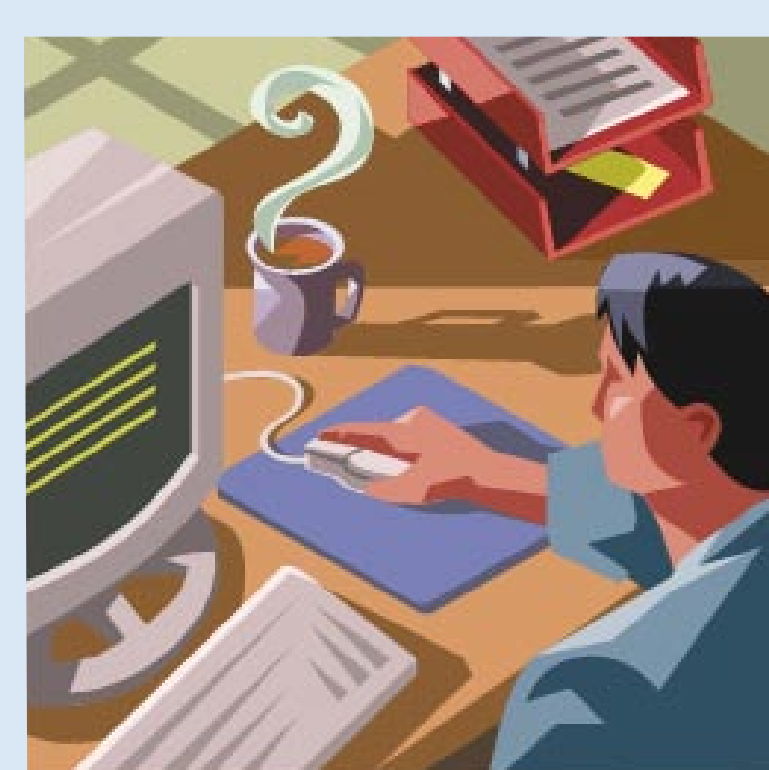
distance education three "standard models" can be pointed out:

- Pure distance education,
- Synchronous distributed education and
- The self-tuition model.

While the first two models are mainly based on one-way communication, the last plans for a dialogue.

Pure network-based distance education is most common in most places, where education, task delivery and task solution is quite automatic. This form of education has, however, not gained much ground in Denmark, where a mixture of on-site learning and distance learning after the self-tuition model, collectively called *blended learning*, is regarded as the most fruitful learning and co-operation model.

WHAT CAN AALBORG UNIVERSITY (AAU) OFFER?



Over more than ten years AAU has developed a distance education concept to offer a large number of continuing education opportunities. Many of these are available to people not only from Denmark, but potentially from the whole English speaking world. Because of our present communication possibilities, place and time are, as mentioned previously, no limitation.

All education at AAU is research-based, in part making it possible to get a more professional overview, and in part allowing more in-depth study. It is frequently possible for students/learners to get abreast of development within the fields of the teachers' research.

The educational form for distance education opportunities is generally IT-based blended learning in the form of self-tuition with incorporated weekend seminars, typically three to four times a year, where learners and teachers meet physically for introductory course sequences. In the time between seminars communication with teaching staff takes place via a web-based *Virtual Learning Environment (VLE)* e.g. the conference system *First Class*.

The major part of the course- and education offerings is qualifying, as the offerings are based on educational directives and study regulations (*Curriculum Based Continuing Education*).

Qualifying, study sessions of a *longer duration* include:

- Full-time bachelor or master programmes organised as part-time and
- The part-time master educations e.g. the master education in Geo Informatics
- The part-time bachelor /diploma educations

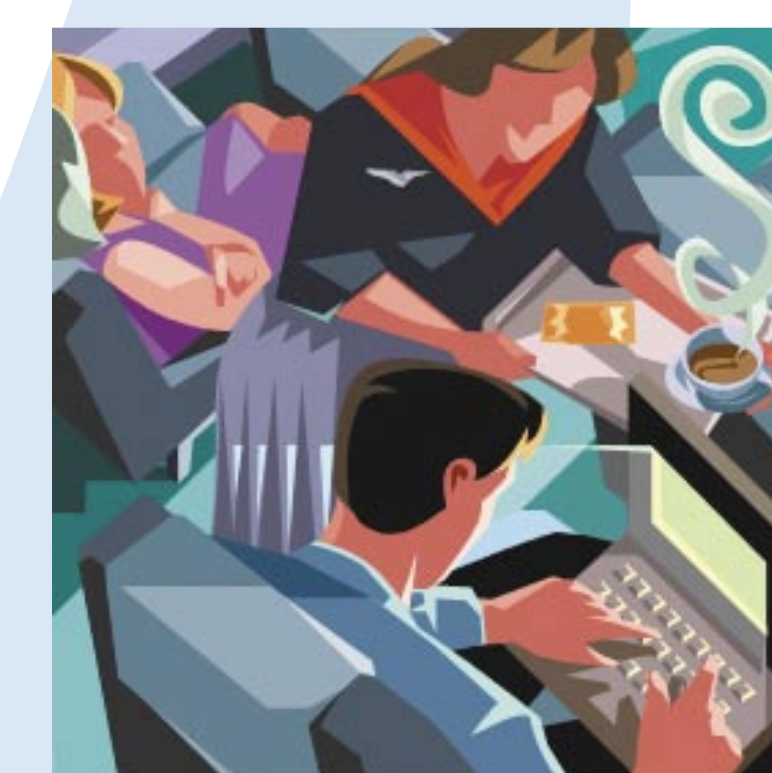
The long-cycle sessions of study primarily apply to a small crowd who are prepared to invest both time and money to the benefit of their workplace.

Educational sessions of a *shorter duration* include:

- Single subject packages e.g. modules from the master education in Geo Informatics,
- The Empty Place Scheme e.g. courses under the chartered surveyor or geographer programme,
- The Lifelong Learning (LLL) concept and
- User defined continuing education.

All forms of education at AAU have, since the start of the university thirty years ago, had problem-oriented, project-organised pedagogy (*Problem Based Learning (PBL)*) as one of the main principles for their structure. This is also the case regarding the network-based master education sessions (including the master in Geo Informatics), where it is also expected that the project work takes place in groups of two to four people. The philosophy behind the problem-oriented project work is that through this educational concept the students' / learners' curiosity and motivation are "built into" the very process of developing knowledge. An offshoot of PBL is *Work Based Learning (WBL)* where the learning process takes place as part at the work place after a programme set up by the university.

FROM BRICK TO VIRTUAL CLASSROOMS



The conditions of co-operation and communication in virtual classrooms are of course marked by the possibilities and limitations of the virtual surroundings. Here are some reflections after 12 years experience with e-learning.

It is not a natural law that you can just jump out into a network-based distance education. Quite special demands are made on both teachers and students/learners. First of all, you have to learn to communicate without physical contact, but primarily by means of the written word. Apart from being more time-consuming it is also a general experience that it may be difficult to get on in writing in a virtual environment, because the communicative means of expression are greatly reduced. You lose the advantage of the face-to-face situation in the form of gestures, eye contact, body carriage, etc. when you wish to express yourself or to interpret a teacher's or a fellow learner's statements and intention. Therefore you must be tremendously careful about the usage of your written messages. Irony is, for example not always understood as you intend.

But it is not only the students/learners who are to learn to learn through distance education. The teachers also have to learn to use the medium in his teaching. Here most teachers (my selves included) must look nearer home and admit that we have been pedagogically autodidact. It is only recently that courses are being established in distance teaching/distance learning. But it is no secret that it can be a difficult process to adapt from old and rooted habits to new behaviour patterns.

In spite of these beginner difficulties and limitations in connection with network-based teaching (*e-teaching*) I think that this educational form is one of the ways ahead, partly to reach the goal of being "more capable, smarter and more innovative" in order to meet as well global as regional and local challenges.

CONCLUSION



I cannot help but quote one of my previous learners (and teaching colleagues), in the magazine "Målebladet", after finishing the master education in Geo Informatics: *Life has not been quite the same since ... You get another impact as human being, teacher and colleague, when you build on your professional knowledge. My self-confidence has got an enormous lift and my*

personal development a kick in the pants. I have become a happier person and in the wake of this a better colleague and teacher.

So the lifelong learning process does not have to be a miserable duty, but can also be a rewarding experience!