A model proven successful for lifelong learning

The Case of Addisco, Norway: Open and distance learning for human capacity building in the industry sector

Per Hegli
Utdanningsselskapet Addisco AS
P.b. 8906 Youngstorget, 0028 Oslo, Norway
E-mail: Per.Hegli@flt.no

Nina Henriksen
Utdanningsselskapet Addisco AS
P.b. 8906 Youngstorget, 0028 Oslo, Norway
E-mail: Nina.Henriksen@flt.no

Sub Theme: ODL, Employability and human capacity building
Abstract
Addisco Education Company operates in the area of Life Long Learning and Open Distance Learning. It is owned by the Union for Management and Technology. In 1992 the union reached an agreement with employers on setting up a special "fund" for financing continuing education of its members. It was envisioned that the future would be characterized by globalization and radical change in all sectors of industry. This would create new demands on the employees, who needed to continuously re-educate themselves in order to be competitive. Addisco offered the workers opportunities to acquire knowledge that either renewed their basic skills or complemented their current knowledge. One of the challenges was to arrange continuing education that was flexible enough. The members have extensive practical experience, but they lack documentation. This was a big challenge and the start of a unique piece of history in ODL and human capacity building.

The goal is to improve the attractiveness (employability) in an open job market by providing the best university courses for adults. Today, Addisco offers education from vocational education to Master’s degrees. Approximately 700 persons use this service every year. Quality is measured based on whether the participant gets new more qualified job tasks, a new job after graduation or, alternatively if they feel that they acquired greater confidence in the work situation. We have identified some success variables that are critical for LLL and ODL targeting adult learners in the industry sector:

1. Acknowledge the employees’ work based knowledge. Connect theoretical understanding with the individual’s experiences. Use individual counseling and group discussions. Facilitate learning by sharing each other’s experiences.
2. Take the employee’s whole life situation into account. Adapt training and provide professional support structures. The individual’s time for continuing education is a scarcity factor.
3. The employees should be able to use their knowledge directly in the work situation. Applied course projects have resulted in major changes of quality systems in multinational companies. Thousands of industrial workers receive continuing education through Addiscos model for further education, which improves both life quality and business competitiveness.

Keywords: Employability, Lifelong learning, Open education, Flexible education, Public - private partnerships
Introduction
In 1990, The Norwegian Engineers and Managers Association (FLT) decided to adopt a strategy to position itself as the association providing the best continuing education. It was envisioned that education would be the largest member benefit. Furthermore, the continuing education of members will certainly support the primary function of the association, which is to create safe and quality work conditions. The FLT fundamentals are described on their homepage (www.flt.no):

The fundamentals

- **Looking after your interests as an employee**
  The modern labour market presents many challenges and the introduction of the Knowledge Society has increased the need for specialisation. Requirements for the way you as an employee do your work are being sharpened. At the same time, companies are demanding more flexibility and mobility. This presents new challenges for securing jobs.
  Trade union membership alone does not automatically help you here. Your union must have an agreement (sometimes called a collective agreement) with your employer; the content of this will vary from union to union. Many unions market themselves by saying they are the natural choice of employees with a specific education or qualifications. We are less concerned about what your job title is, we want to offer you a tariff agreement which suits the job you are actually doing.

- **We offer legal assistance and help with problems at work.**
- **We help employees and management to communicate and collaborate.**
- **We offer and finance education and training aimed at you as an employee.**

The association identified changes in the industry, which would be affected by globalization and the galloping rate of change in all sectors of industry. At that time (early 90s), the mantra among employers was that human capital would be just as important as financial capital. This would set new requirements for both employer and employee. Future workers must be prepared to acquire new skills continuously to be on par with his job. FLT’s foresight is corroborated in a recent article, The Impact of the European Policies on the New Skills for the New Jobs, by Maniscalco (2010), who presents the following statistics:

- **In 2007, there were almost 80 million low-skilled workers in the EU** (nearly 30% of the adult population).
By 2010 only 15% of the newly created jobs will be for those with low skills, and 50% of new jobs will require higher education level qualifications.

The primary target group for education is members of the FLT. We conducted a thorough market survey in order to analyse who the target learners are. When we looked at the population consisting of about 20 000 members, it is clear that the educational and experience shows that this group is heterogeneous. However, we identified the following demographic variables:

- They work mainly in the private industry in Norway
- The average age is 40 +
- 82% are men and 18% are women
- They are spread all over Norway
- Most of them have families
- They have extensive work experience
- Very few have higher education

All members are employed; we must find courses that appeal to as many as possible in the target group and courses that are relevant for work life and personal development. Time constraints due to work demands (was reported by 33% males and 19% females) and family obligations (was reported by 11% males and 18% females) are the main obstacles for adult learners according to a general survey of the topic conducted by Eurostat and Statistics Norway (2007).

**Development of a functional educational model**

During a decade of experiences and planning a functional educational model has been developed by FLT. The following four steps are the major milestones in this process.

**First step: Financing the education**

In 1992, FLT was able to reach an agreement with employers on a “fund”, which as a whole would go to the continuing education of members. The fund is built up by the employers paying a sum per member per year. Members can then apply for grants from this fund. More later in this article about the funding system.
Second step: Technology providing flexibility

In 1997, a request came from some members who operate in the oil sector in the North Sea. Statoil asked about new quality standards for its suppliers. Scana Offshore Technology AS had corrosion treatment of the oil platforms as one of their work tasks. Maintenance of the platforms should now be separated from business. The staff had two years to take over the business. They needed skills in the field of project management to meet the new work demands. NKS and the Oslo School of Management had extensive experience in delivering distance learning packages via the postal service. The challenge was that these work shifts are offshore. That fact complicated getting to meetings and distance learning by mail was too slow. However, we came into contact with a news media supplier that had been successful in using e-mail to communicate sports news back to Norway from the Olympic Games in Atlanta (1996).

This was our first encounter with using computer technology (e-mail) for formal training. Along with the Oslo School of Marketing and NCS, we developed an education program, management for project leaders, consisting of 8 courses totaling 48 credits. During 4 years, 70 managers at Scana Offshore received this education, which was delivered as distance learning. Later, this training was also delivered to the companies Rolls-Royce and Aker Kvaerner.

The emergence of Internet technology gave new opportunities in the design of distance learning. At the same time we had a focus shift from knowledge acquisition to competence development. The employees need to continuously provide, maintain and develop his or hers competences continuously to secure employability.

Third step: Total management: service and simplicity

The results of the aforementioned project gave us some important experiences, including the insight that one of the major challenges was to organise continuing education to be flexible enough. In order to reach as many members as possible, we had
to do more than just hand out scholarships. We had to build our own education program and facilitate all the necessary services such that most of the members would have the opportunity to acquire an education. We needed to simplify the search and admission procedures related to course enrollments.

Methods, procedures, pedagogics, computer systems, accommodation, travel, etc. had to be relevant and easy to access for the participants. Participants are responsible for their own learning but we have a responsibility to facilitate learning for all members. The goal is to improve the individuals’ employability in an open job market by providing the best university courses for adults.

Fourth step: The foundation of an education company: Addisco AS
FLT realised early that if we were to have such a strong focus on continuing education as envisioned, this activity needed to be separated into a separate education company. Therefore FLT created a special education company: Addisco AS in 1999 (see also www.addisco.no). Addisco’s goal is to ensure employability of FLT’s members. This is done by:

- Delivering tailored education to all members
- Taking into account the needs and demands of the industry.
- Providing a flexible form of teaching - tailored to meet employees need of further education and lifelong learning in a “working context”
- Continuously develop new courses tailored to meet existing and future competence needs

Education managed by Addisco are fully funded and free of charges for its members. This means that Addisco covers course and examination fees, textbooks, flights and hotel accommodation in connection with weekend meetings. Through collaboration with national and international academic partners, we develop the best training and education programs possible for our members. All courses are at university level and specially adapted for our target group and their needs.
The major challenges we faced and our solutions
There were a number challenges to overcome in order to achieve the goal of tailor-made, relevant and useful education for all members of FLT. Table 1 below provides an overview of the major challenges and the strategies we developed to solve these problems.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding</td>
<td>Solved by establishment of an education fund</td>
</tr>
<tr>
<td>Provision of up to date, relevant and adapted courses suitable for the target group</td>
<td>Establishment of strategic partnerships with the best academic institutions with competence in selected topics. And creating the right blend of topics into a new education program</td>
</tr>
<tr>
<td>Admission</td>
<td>Solved by acceptance of prior learning acquired by experience in work life</td>
</tr>
<tr>
<td>Time constraints and geographically widespread learners</td>
<td>Solved by long distance learning through our own learning platform - Addiscolearning</td>
</tr>
<tr>
<td>Need of for face to face interaction in order to exchange experiential learning skills and facilitate problem solving</td>
<td>Solved by full funding of four weekend sessions per semester per course. All travel expenses covered etc</td>
</tr>
<tr>
<td>Insecure learners. Lack of confidence for higher education. Unfamiliarity of procedures and practical aspects of learning management</td>
<td>&quot;One stop shopping&quot; Addisco takes care of everything regarding search and admissions process. We make appointments, order and finance directly with the hotel and order and pay tickets directly with the travel company. At the same time, we use part of the first face-to-face meeting to create professional confidence and security in the class/group.</td>
</tr>
</tbody>
</table>

Table 1: The major challenges and the strategies to solve the problems.

Challenge 1: Funding education
In 1992, FLT managed to reach an agreement with employers on a setting up a "fund", which as a whole would go to the continuing education of FLT members. The fund is built up by the employers paying a sum per member per year, see figure 1 below.
Figure 1. The funding model for education of FLT members

Members can apply for grants from this fund. Stipends vary depending on education type and length, see table 2.

<table>
<thead>
<tr>
<th>Education</th>
<th>Credits</th>
<th>NOK</th>
<th>USD</th>
<th>Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Courses</td>
<td></td>
<td>15 000</td>
<td>2730</td>
<td>2030</td>
</tr>
<tr>
<td>Part-time education</td>
<td>15 credits/SP</td>
<td>37 500</td>
<td>6820</td>
<td>5070</td>
</tr>
<tr>
<td>Full-time education</td>
<td>30 credits/SP</td>
<td>50 000</td>
<td>9090</td>
<td>6760</td>
</tr>
</tbody>
</table>

Table 2. Amount of funding provided by Addisco per learner each year and type of education.

Courses and studies held under Addisco’s direction are fully funded for its members.

This means coverage of course and examination fees, textbooks as well as flights and hotel accommodation in connection with weekend collections. Until 1996, Addiscos contribution to continuing education and training was primarily to award scholarships to members who wanted to take courses at various educational institutions in Norway.

Challenge 2: Relevant courses

All learners in the target group are adults who are employed, they already have a primary profession. We wanted to find courses that would complement their current profession. Scientific theories within economics and management are useful as most members are employed as technical project managers or directors.
After a study tour to Australia where Addisco came in contact with the Australian union APESMA (http://www.apesma.com.au/), Addisco obtained the legal rights in Scandinavia for the training program iCertificate in Frontline Management. This course was the first module in the program iStudy in Technology Management. Addisco searched for partners that could help them get Frontline Management approved within the Norwegian education system. However, our impression of the higher education institutions in Norway in the early 2000's was that there was much "red tape" and that they were not very interested in listening to our needs. However, there are honorable exceptions.

When we came in contact with the University of Bergen, our ideas about skills upgrading based on participants' prior learning was taken seriously. Addisco entered into a partnership with the University of Bergen with the aim of facilitating this program in the Norwegian language. Study in Management consists of training modules in economy and management. We launched the program in 2002 with the course Frontline Management (15 credits). The first course had 20 participants. Today the program consists of seven modules with approximately 340 students each year. All courses follow the same teaching style. Each course is 15 credits and lasts one Study Period (SP1 January - June and SP2 August - December).

The courses are offered as blended learning: distance learning through the Internet combined with 4 weekend seminars. Each course is run with contracted academic coordinators and one or more lecturers from universities. All meetings are organized with the course provider, in this case the University of Bergen and Bergen University College. All course material is to be found on our own LMS - Addiscolearning. Each course ends with a four-hour written examination.
Challenge 3: Admission: Work life experience, but little to no academic experience

Another challenge we faced was that in order for an adult to enter a university (get admission), the student must have prior formal education at the gymnasium level. Many of our members have no such prior knowledge and were thus excluded from being admitted as a student at the university. FLT and especially the former Union leader and chairman of Addisco, the late Magnus Midtbø, worked hard to get prior learning (work experience) recognized on par with formal qualifications. This was later also recognized. A major obstacle was thus eliminated.

Challenge 4: Distribution: Distance learning through our LMS Addiscolearning

A strategic decision was made that all education delivered by Addisco should be delivered via our own LMS (Learning Management System) named Addisco-learning. The system is built on LAMP technology (Linux - Apache - MySQL - PHP script). The reason for this choice is that no matter which course or courses our students choose, they will always be able to relate to a coherent system, our virtual school. This was important since courses are constructed with several different content providers in program. Another advantage is that Addisco is independent from having to deal with commercial actors. We decide on our own when to make upgrades and which tools to use in our courses. In other words Addisco has full control over the distribution of courses.

August 2012 we launched a new LMS buildt on Moodle elements. To help us design a learning environment customized to the learners needs we cooperate with Stockholm University Sweden.

Challenge 5 - experiential learning and relation to work life

All courses organised by Addisco give 15 credits and last one semester. The courses are conducted as distance learning via Addiscolearning in combination with four weekend sessions per course. At the first face-to-face meeting all participants present themselves and get acquainted with one another. Participants are put together in project teams across
industries and companies, enabling them to take part in each other's experiences. Tasks are designed so that they can take their own workplace as a point of departure. For example, when learning about accounting, finance and key analysis, every employee brings financial statements from their business. All specific project tasks are based on written questions provided by their employer.

**Challenge 6 - students' fear of school – One Stop Shopping**
The students fear is solved by "one stop shopping". Addisco takes care of everything regarding the admission process and the practicalities during the whole course period. We make appointments, book and pay directly with the hotel and order and pay tickets directly with the travel company. As previously mentioned, we use part of the first meeting to create professional confidence and security in the class/group. Other services include individual coaching and advice in the form of studies, encouragement and motivation when exam nerves arise.

<table>
<thead>
<tr>
<th>ONE STOP SHOPPING BY ADDISCO</th>
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<tbody>
<tr>
<td>Enrollment</td>
</tr>
<tr>
<td>Text books</td>
</tr>
<tr>
<td>Access to Addiscolearning</td>
</tr>
<tr>
<td>Exams</td>
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</tbody>
</table>

**Table 3. One stop shopping at Addisco are time-saving and easy**
We require of lecturers that they both possess professional scientific expertise and professional work related experience. It is a great challenge to teach a group of adults, each one with 10 - 20 - 30 years of experience in quality management services acquired at companies such as Volvo Aero Space, Aker Kvaerner, etc. The teacher must possess high professional confidence in order to open up for discussion outside he curriculum. However, when adults are allowed to talk about their work related to the subject their confidence grows and thus he/she becomes even better (see case 3 below).
Current state: What has been achieved up to date?
Today, Addisco offers education from vocational education to Master degrees.

Approximately 700 people use this service every year. Addisco offers full educational services to union members. Quality is measured based on whether the participant gets new or more qualified job tasks, a new job after graduation or, alternatively if they feel that they have acquired greater confidence in their work situation. So far, Addisco has delivered about 1600 course units in Technology Management, and the pass rate is over 92%. The majority (80%) have entered the program on the basis of their work experience. The proportion of women who take our courses are about 37% (the percentage of women in the union is 18%), and this is in line with experiences from other studies showing that women have great motivation to improve their expertise.

The program has since its inception in 2002 been expanded with new courses, and consists at present of 7 subjects of 15 credits. Table 3 below provides an overview.

<table>
<thead>
<tr>
<th>Education programe</th>
<th>In cooperation with</th>
<th>Registered students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology management</td>
<td>University of Bergen</td>
<td>&gt;2000</td>
</tr>
<tr>
<td></td>
<td>University college Bergen</td>
<td></td>
</tr>
<tr>
<td>Master in Business Administration</td>
<td>Chifley Business School</td>
<td>&gt;80</td>
</tr>
<tr>
<td>Management program</td>
<td>Markedshøyskolen NKS</td>
<td>&gt; 2000</td>
</tr>
<tr>
<td>Master Project Management</td>
<td>Stockholm University</td>
<td>Starts Sep 6th 2013</td>
</tr>
</tbody>
</table>

The philosophy of ownership and to be able to assess the quality of the entire value chain from courses through the curriculum to the participants' learning process and...
their examination, has proven to be very valuable. Likewise, the use of meetings as part of the educational program had great value, not only through the participants’ cooperation and learning in and between meetings, but also for the networks created with FLT-members across industries and geographic divides. It is not only in these areas Addisco shows its strength. Addisco has been selected for its excellence (gasellebedrift-gazelle company) three times by the Norwegian major business paper Dagens Næringsliv (http://www.dn.no/ transl eng:Today's Business) for its business operations. It is only 5% of all active companies that achieve this title every year.

Conclusions
We have identified some success variables that are critical for LLL and ODL targeting adult learners in the industry sector:

1. Acknowledge the employees’ work based knowledge. Connect theoretical understanding with the individual’s experiences. Use individual counseling and group discussions. Facilitate learning by sharing each other’s experiences.
2. Take the employee’s whole life situation into account. Adapt training and provide professional support structures. The individual’s time for continuing education is a scarcity factor.
3. The employees should be able to use their knowledge directly in the work situation.

Future development and research
Addisco are planning several education and research projects together with academic partners in order to further expand services and knowledge in LLL and ODL. The list below shows some of the initiatives ahead:

1. Follow up and evaluation research on the impact of education distributed by Addisco with two complementary perspectives: a) The significance for individual students, such as personal and career development, and b) The significance for companies, such as increased competitiveness, new products, services, processes and revenues.
2. Development of new courses: Entrepreneurship, Business Ethics and Research methods (in order to qualify for the Master). Offer 2 Bachelor Degrees, one in the field of Administration ad one Industrial/Technical.
3. Introduce a Master in Project Management developed by the University of Stockholm.
4. Get into a network of Moodle users
5. Linking Addisco up to interesting projects with national and international partners.

Three cases: Industry benefits and personal development
Through interviews with some of the participants, we received the following feedback about the impact of Addisco’s education service.
Case 1: REC Scanwafer
- New knowledge saved millions in the production process
- Told by Addisco learner: Espen Loraas

Recognition of prior learning proved valuable. In the autumn of 2010 three students from REC Scanwafer (www.recgroup.com) completed the Total Quality Management course. All were admitted on work experience. The course includes an assignment, which shall be related to the business they are employed in. These three participants took the newly acquired knowledge back into the job situation and created a new TQM system for the company. REC is the world’s leading manufacturer within solar energy and REC has implemented this new subsystem in all of its factories worldwide. The result is that REC now saves millions each year.

Espen says:
"My name is Espen Loraas, I’m 45 years old. I have worked in the industry for many years, first at the Norwegian Forest Union until it closed in 2006. Then I worked a few years at REC and then at Ragn Sells. I have always found it stimulating to learn something new, and I got a chance to do that through Addisco. I have now taken four courses and received valuable credits. University and college studies sounds initially scary, but through the education one is enabled to carry out the examinations with good results. At the same time you are often more motivated as an adult. What has been interesting is to connect theory with the practical experience developed during many years. The examination of the course total quality management includes a project, often based on your current employment. We were three persons from REC who worked on a task with the aim to reduce the changing time between the ovens that melt the silicon. Changing time is when the oven is finished until it is ready to start again. Using the tools we learned about in class, we could reduce the transition time from 80 min to 35 min. Production increased during the year with 25 oven starts. For this project we received Magnus Midtbøs education award".

Case 2 - Øglænd System
- Career Development Within the company
- Told by Addisco learner: Lauritz H. Løve

Another success story is from Øglænd system (http://www.oglaend-system.com) where one of our members worked at their factory. He moved up to plant manager at the end of the education period. Later, he was selected as CEO of the company.

Lauritz says:
"My name is Lauritz H. Løve and I currently work as managing director of Øglænd Systems AS. This is a manufacturing company with 125 employees and a turnover of around 400 million. I’ve worked myself up from the logistics manager, and later from plant manager to Managing Director in the company. This has happened in a period of 6 years in business, and has progressed much due to growth and positive development for both the company and myself. It is in my view essential that I have been able to further educate myself and acquire more knowledge. With this knowledge I have been able to move up in the system and gotten heavier workloads. Without Addisco’s tailor made training program for adults who are fully employed and their web portal, in combination with meetings during some weekends per semester, I cannot see that I would have had the capacity to carry out further education. However, with the education program
managed by Addisco I was able to complete the courses and at the same time continue work and spend time with my family. I have been a part-time student since 1999 with FLT and Addisco, and have taken most of the available part-time study courses at college and university level during this period. I have managed to complete all the courses and passed the exams, although I do not see myself as especially bright in school subjects. Though having said that, I have the ability to plan and implement what I've decided to do. I have learned welding much on part-time studies that I use in my daily work and would recommend everyone to apply for admission to part-time studies at Addisco to learn more, and make sure you have updated knowledge. I would probably not have been offered to get the job I have today and would not be able to take on the job, if I had not completed part time studies at Addisco and obtained the required knowledge to be able to possess such a position. I will conclude by recommending Addisco's education programs if you who want to learn something new and to study 8-12 hours per week instead of watching TV”.

Case 3 - Aker Solutions
Inspiration and deep knowledge acquired by the flexible and free education model 
Told by Addisco learner: Gaute Johannessen

Gaute Johannessen completed the "Technology Management" Course and is now looking forward to finishing the new MBA in early 2012. He is currently holding a position as Project Manager at the Aker Solutions (www.akersolutions.com) office in Mumbai.

Gaute says:
“The position has given me international experience working in a global setting doing split location maintenance, modification & Operations (MMO) projects. It has been a great experience to be able to use what I have learned thru the extensive education program with work processes like implementation of strategic decisions, plan and execute a clear vision while re-organising the Mumbai organization to an independent operation by defining and improving business processes, structure and organising business activities. The education has without a doubt helped me to set higher goals for my own achievements. It has taught me to be committed to the job, and I have been driven by the challenges and every accomplishment has been a motivation to complete the MBA program. I feel that I am more able to reflect on things better, and will not be as easily affected or influenced by various comments in a conflict trying to reach a decision (always two sides of the story). My education thru Addisco has been far better than I first expected it to be, and I have to give credit to the flexibility of the program. I would say the programs ability to adapt to the individualís needs with focus on getting everyone to pass the exam has softened the transaction back to school. Equally important is for the individual to be able to give priority to the studies, it's not always easy when you are working full time and have a social life with friends and family in addition to oneself. As a member of the FLT Union all my education has been given for free, even the flight travel and hotel in Bergen during the weekend lectures. Usually talking to others, they canít believe it's possible to get a free education like the one I have, during my studies I have convinced a few to check the possibilities, and seen them sitting happily on the first row the next semester. I feel that this is only the beginning and a good investment for the rest of my life, I do not regret for one second the efforts that I have put into my studies, and somehow I don't believe that this MBA will be my last educational program”. 
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