Distance Learning: Learning on Demand and Just in Time

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“Learning on demand” and “just in time” are phrases used in the context of further education and these phrases are likely to be used from an employer’s perspective. In the concrete learning process there are always restrictions in time and place that derive from the learner’s situation when there are conflicts between the interests and demands of the employer, the teaching institution and the learner’s further social environment. Distance learning (DL) holds the opportunity to cope with these challenging three interests, because in DL the learning process can be independent of time and place. Thus DL is a promising way to optimize the learner’s response to the competing demands and restrictions.

The Master of Distance Education (MDE) Online Program is an example for a DL program where especially learners from a distance learning job environment can find a rewarding environment among the competing demands and restrictions. The intensive use of information and communication technology (ICT), the supportive concept of the MDE Online Program, supportive actions of the employer and, of course management, as well as other skills of the learner can ensure the learning success and thus the benefit of all involved parties.

1. Whose Demand and Whose Time?

Learning on demand and just in time is normally understood only from the perspective of the employer who wants the employee to exactly learn the needed content at the right time. This biased phrase meets reality of further education only by chance, since in an individually constructed, perfect learning situation with the right teacher or learning material at the right place and at the right time (like personal coaching).

This article is about the learning situation of working adults who agree with their employer and with a teaching institution that they will engage in some further education with certain content and for a certain time. The article describes how distance learning (DL) using ICT as a delivery system can facilitate this kind of learning process and result in success. Moreover, the article is about the example of the MDE Online Program and how learners, who work in the field of DL, as well as the employer can benefit from the synergies of this combination.

There is often an unwritten contract between the three parties mentioned above. In this contract the investments and the benefits for each party are fixed. Thus the person who learns and is employed at the same time has to cope with three different interests concerning the learning process and success: the interests of the employer, of the teaching institution and her/his own interests. Each of these interests has its own demands and time requirements and often the interests compete.

The employer

The employer invests time and/or money in the learning process and wants the employee to effectively learn for the benefit of the company/institution. The learning goal of the employer is the return on investment. The employer wants the learner to exactly learn what is required for the job at the right time.
The teaching institution:
The teaching institution gets money (public or private) for “producing” graduates. Depending on who is the client (the employer, the learner, the public) the teaching institution serves either one or the other's interest. The teaching institution wants to get further students and also has additional teaching goals (a mission).

The learner:
The employee invests time and/or money and wants to learn in her/his own interests. These interests can, but don’t have to be, the same as those of the company/institution. She/he probably wants to initiate some personal development or raise her/his employability on the job market.

Obviously there can be conflicts between the interests described above. The conflicts concern the content as well as the learning time. As we will see, ICT-based DL as a content delivery system is an option to facilitate balancing the different interests.

2. Distance Learning Supported by ICT

The use of ICT ensures ubiquitous access to DL; thus “the global network of computers (…) is a major revolutionary force that is reshaping the educational and training scenario” (Romiszowski, 1997)

A lot of persons who would like to be involved in further education are not flexible in either time or place. For example, restriction in personal circumstances (family, job requirements) may force a very individual structure of learning time that does not fit with any institutional face-to-face offers. The only possible learning time may be: early morning, at night, only/no weekends, whole days, never more than x hours in one block, quick changes in the individual structure of learning time and so on; or circumstances (family, costs, job requirements) may make it impossible to move to the university/chair that has specialized in the intended content.

For those inflexible “want-to-be-learners”, DL is the only way to develop. DL brings the content to the learner instead of the learner to the content. It gives international access to the university/chair that has specialized on the intended content without moving around the world.

It is important to mention that this access is ubiquitous only as long as the delivery of the content is asynchronous. Individual structure of learning time and international time differences would destroy the accessibility of content if they were delivered synchronously. The intensive use of ICT not only makes the chosen content ubiquitously accessible but also allows the integration of the learner into a supportive learning community. Using the communicative potentials of ICT makes a significant development “from computers as teaching machines, to computers as tools to empower learners and teachers” (Bates, 1995, p. 181).
Example: Master of Distance Education (MDE) Online Program

The MDE Online Program is designed to “produce” professionals that are employable in the field of DL with skills such as management, technique, teaching, training, in developing countries and so on. It broadly uses ICT for building learning communities and individually supporting the learners. All communicative activities and requirements are asynchronous. For a detailed description of the MDE Online Program see chapter 1 of this volume.

A lot of the students, like the author, in the MDE Online Program work in companies/institutions that use or will use in the future DL. That means the students are moving towards professionalism in the field of DL. Employees and employers develop in new business areas and use the content in MDE Online Program to facilitate, improve and reflect on this development. They build a scientific foundation for their job and/or business area activities. (All the examples in this article are taken from the experience of the author.)

The advantage of this special online-learning situation is that the learners work with DL, study about DL and study via DL always using and reflecting on ICT. Studying via DL is an additional learning level all three interests, the learner, the employer and the teaching institution benefit from. It ensures the practical experience with the learned theoretical content.

3. Content on Demand

The content to be learned is the core of the explicit or implicit contract between employee, employer and teaching institution. The three parties have different demands regarding the content:

The employer demands content that is close to the job requirements. The content should be applicable to the job situation, or vice versa, it should be possible to choose content or adapt content to the job requirements.

It is up to the negotiation of employer and employee/student to quantify the benefit of the learning process and to divide the costs (time and money) accordingly.

The teaching institution demands (and will offer) content that copes with the requirements of graduation and has a value independent of one employer (corporate universities and corporate training are special cases and are not under consideration here). The content should be more theoretical and independent and thus applicable to a lot of job situations. For degree comparability it would be necessary to more or less fix the contents with little options to choose. It would only be possible to adjust content within the fixed syllabi of the courses.

The learner demands content that raises her/his employability within or outside the present company/institution. That means there is a strong interest in content that is more theoretical and independent and thus applicable to more than the present job situation. In addition, there is an emphasis on comparable degrees for competitive reasons.

It is beyond the bounds of probability that these demands are identical. There are always demands that are only located with one or shared between two of the three parties. For
example the learning outcomes normally go beyond the required new knowledge for the job but also for graduation. These additional learning outcomes can have direct impact on the working process that could not have been foreseen.

The amount of overlap of the different demands for content is usually not explicit, but it is important for the support given by the employer, the success of the teaching institution and last but, not least, for the success of the learner. The overlap of the demands for content can be illustrated as follows:

*Figure 1: demands for learning content*
There are a few more figures possible, where two of the demand-circles do not overlap, but since this paper is only examining learning on demand and just in time, the overlapping demands of interests: Learner, employer and teaching institution are the focus.

The stability of the learning situation depends on how big or small is the overlap. This can vary from course to course, from job to job or within a job over time, and from learner to learner or within a learner over time.

For the success of the further education at any point of the learning process there has to be a consensus between the parties that they share demands but also that each has their own demands and targets. It has to be accepted that the demands of the others also need fulfillment. Otherwise the party that is put at a disadvantage will leave the contract. Thus the amount of overlap (and thus the stability of the learning process) depends on how the parties accept the interest of the others.

So far, this is all independent of the type of delivery of the learning content. It’s true for face-to-face further education as well as for DL.

**Example: Master of Distance Education (MDE) Online Program**

In this quite new MDE Online Program there are some details about the content that are still in process. The content is still changing according to feedback from the learners. The learner, on the one hand, can have a kind of steering function and influence the emphasis of her/his own studies and of the program. On the other hand that can sometimes be confusing for the learner.

As mentioned above, it is a speciality of the ICT-based MDE Online Program that the delivery system is an application of the content. Thus the delivery system can be seen as part of the content.

For the students who work in the field of distance education and want to further develop in this area, the demands of their employer, of the MDE Program and of their own are in a kind of balance. There are different options the parties can (and do) use to enlarge the field of shared interest and demands and thus stabilize the learning process and success:

**Employer of MDE student:**

Realistically, the employer does not really know what the employee could or will learn; but it has to be the interest of the employer to use as many learning outcomes reached by the learner and demanded by the teaching institution as possible. How can this non-transparency be optimized?

- To have insight into the learning outcomes of the employee, the employer regularly has to demand an account from the employee.
- Companies/institutions in the field of DL are continually facing new task and new demands. It is the task of the employer to allocate the new skills of the studying employee to the new business tasks where possible. Sometimes it is possible to go the other way round and adjust the business tasks to the just learned skills.
- One important goal of the MDE Online Program is to reflect on the different aspects of DL. This skill can easily be used for reflection on what’s going on in the
MDE Online Program

MDE Online Program has to facilitate the overlap of demands of the employer and the employee to satisfy the clients and ensure graduation at the same time. There are several structures in the MDE Online Program that allow the adaptation of the content to the demands of employer and learner:

- Curricula: The MDE Online Program offers a variety of courses and certificates that meet the requirements of different business areas emerging in the rapidly expanding world of DL. The certificates show the different foci students can concentrate on: DL in developing countries, DL and technology, foundations of DL, library services in DL, teaching at a distance, training at a distance. With seven core and four elective courses the MDE students can choose their own focus or study what meets best the demands of the employer.

- Working with case studies: It is critical to integrate examples and case studies to ensure the transfer of the learned into practice. The MDE Program encourages students to take examples from the learner’s job environment and apply them in their studies.

- Related work: The MDE students have to build a personal DL portfolio, which will serve as an ongoing professional resource, as well as a useful job search tool. Students are encouraged to let the portfolio grow during the whole time of study, thus drawing a connection between job and studies. Related work has to be accepted by the MDE faculty and can be in any language MDE faculty can support.

- Project: The MDE students have to develop and document a case study/project for an organization in the area of DL and training. Thus students display and practice a variety of skills and knowledge in the area of DL and training. They can work on their own company or institution for this case study/project.

MDE student:

Different demands of the employer and the MDE Online Program concerning the learning content always means more workload for the learner, who has to balance these demands with his/her own. Therefore the learner has to enlarge the shared interest in the content. At the best the three circles of demands (see figure 1) are nearly identical. The larger the overlap, the smaller the workload for the student. Because of time restrictions the student will try to combine working and studying wherever possible to come to a more efficient way of working and studying. That means, the student will try do suite the learning content to the employer's demands and vice versa. How can the learner optimize her/his learning process and workload?

- Where possible, he/she will recycle text-products and other products (calculations, illustrations, diagrams), and thus use the products more than once, for the requirements of the job and the MDE Online Program.

- To some extent it is possible to select the content using the requirements of the job but within the fixed curricula. If for example during the next year there will be a company/institution that is moving toward DL at the moment. This reflection could improve that process in the company/institution.
discussion in the company/institution about the organizational structure of the future business area “distance education” it would be appropriate to select the course “distance education systems”.

- To some extent it is possible to select the job tasks after learning new skills. In a changing business environment job tasks are changing fast, and it may be possible to jump on to a new task that fits just learned knowledge. For example it could be a task to design a student support system for a special situation just after the student took the course “student support in distance education”.

- Every text product of the job (concepts, questionnaires, reports, reviews, publication, presentation at conferences etc.) can be reviewed to see whether it fits to any of the content that is offered in the MDE Online Program, and if so, then it can enrich the personal portfolio.

The example of studying employees in the MDE Online Program shows that the program content can be well suited to the demands of all involved parties if they try to understand and to use the other’s perspective. Again, all this is independent of the content delivery system, no matter whether the content is delivered face-to-face or at a distance.

4. Learning Just in Time

Balancing the demands for content is a difficult task but sounds quite easy compared to the issue of time. The independence of time and place in DL does not mean that there is no time and no place needed to learn. “Just in time” is often misunderstood: It means that the learning success is available without delay. Often, the learning time tends to be delegated by the employer to the private time of the learner. In this case, and if there is no financial contribution of the employer, there is no agreement about further education between learner and employer.

So what does “in time” mean from the three perspectives involved in the further education process this article is dealing with?

The employer

Of course, it’s the employer’s demand that the learning outcome is available before the employee needs the qualification. A learning outcome that comes after the qualification would have been necessary is senseless for the employer. In this case the employer’s investment (time or money) would have been wasted. For the employer it does not matter when the learning content is delivered and when the learning process takes place – with the restriction that the learning process must not influence the fulfilling of the other working tasks. The time for the learning process is fixed in the often unwritten “learning contract” between employer and employee.

The teaching institution

The teaching institution wants the learning outcomes according to a timetable that leads to a graduation in a reasonable time. The timetable shows the steps towards the graduation. The steps are marked by courses and within courses assignments. The main data here are: How long may the whole program last and how are the courses and assignments scheduled to make it fair and comparable to other students. The content has
to be delivered before the assignments so that the timetable of the assignments forces a
timetable for content delivery and learning activities near to the assignment.

**The learner**

The learner wants the learning outcome (tested in assignments) when there is plenty of
time for learning in the individual timetable, before she/he needs it in the job (or on the
job market), and before she/he needs it for graduation.

This leads us to a complex hierarchy of urgent and not urgent learning tasks where
every involved party has different views of urgent – of what should be learned in just
what time. We could illustrate that with a three dimensional graph, each axis is the time
scale of one party and the learning tasks are located in the space between the axes nearer
or further from the zero point, (that is the point “do it at once”).

Realistically, the learner who has to optimize the process will step back to a reactive
position, take the hierarchies of the employer and the teaching institution and just work
on the next deadline. Further education is an additional time consuming task in the life
of a normal working adult. Time is always rare and allows only the absolutely necessary.
The frame of this optimization process is built by the individual time restrictions of the
student and by the time requirements of the teaching institution and the company/
institution. Part of the “learning contract” between employer, employee and teaching
institution is an agreement upon time that can or should be used for learning. At the
best, one contribution of the employer to the learning outcome is the dedication of
working time to that task (another contribution could be money).

At this point the content delivery system becomes important: “Just-in-time training, in
its implementation, implies a high level of individualization and self-direction in the
training and education processes, so that each individual may learn just what he or she
needs at the time when he or she needs it. Almost by definition, this implies a radical
change in the training delivery system from place-based and time-fixed group instruction
(characteristic of our conventional education in the past) to on-the-job distributed
training that may be utilized, under learner-control, at any appropriate time or place”
(Romiszowski, 1997).

ICT ensures at the same time that the learner does not get lost as a lonely learner but is
integrated in a learning community and individually supported by faculty. For the
learner, integration in a learning community and support by faculty are also time
consuming restrictions by the teaching institution but with a quick return on the learner's
time investment: an improvement of the learning process.

**Example: Master of Distance Education (MDE) Online Program**

How can (and do) the MDE Online Program, the employer in the field of DL and the
learner optimize learning just in time with the extensive use of ICT?

**Employer of MDE student:**

The employer will benefit from the learning outcome, and therefore there is probably an
unwritten contract with the learner about the contribution of the employer. This
contribution is either time or money (and money is another measure for time in this case).
• The amount of working time the student can take for studying has to be determined in general terms by the totally necessary time for studying (for example half of the necessary time).

• Continuous studying time: It is helpful if the student can rely on an agreement about continuous time for studying, for example the first working hour in every day. This makes possible a continuous contribution to the communication requirements of the MDE Online Program and anchors in the employer’s and the employee’s perspective that learning is one of the working tasks.

• Flexibility of working time: To fulfil the requirements of graduate studies the learner needs time, and there are times when the workload is larger (before deadlines of assignments) and others where it is smaller (university vacation). Within reason the employer has to accept the learning task as first priority some of the time.

**MDE Program:**

MDE Online Program has to balance, on the one hand, time requirements that are unavoidable for building studying communities and for graduating students and on the other hand to give students flexibility and thus keep them studying.

• Flexibility with deadlines: MDE faculty show some flexibility if the learner is in a difficult personal or job situation.

• Asynchronous learning settings: All the required communication between faculty and students and between students is asynchronous (email, conferences, posting documents). That means in practice that the courses are scheduled in 2- or 3-week partitions. Within these partitions students have to complete tasks (reading, discussing, writing assignments). It is relevant for the grade how students complete their tasks within these partitions, but it is not relevant when they work on the tasks and when they complete it. It depends on the amount of required group work how the learner can flexibly manage her/his learning time within the schedule of a course.

• The learning setting independent of place: No matter where the learners are, as long as they have internet access they can get in touch with their learning environment, content, classmates, tutors, support. There is no additional software required that could prevent the learner from using any available internet access. As long as they have a PC they can at least work on the content (at home, at the workplace, at conferences, at vacation apartments, in boring meetings, in trains, in hotel rooms, in the park).

**MDE student:**

Time management skills are essential for students in the MDE Online Program. In face-to-face further education there are fixed learning times and at last when the learner arrives in the classroom no one (not even the employer) will disturb the learning process. In distance further education learners have to decide in every moment of working and learning time what is more important and more urgent at the moment. Time management is not a question of days or half days but a question of half hours in DL. Thus the student can optimize the workflow and the learning process (and her/his private time). Of course it is more efficient for the workflow and for the learning process
to organize larger time partitions. However, between deadlines, meetings, group work, routines, train departure time, emergencies … half an hour of reading can be a gift. For writing assignments, less than a two hour slot does not make sense.

Student time management is dictated by the time sensitive requirements of employer and teaching institution and by the hierarchy of importance of these time sensitive requirements. To facilitate the time management of learning the student can act on several levels:

- The independence of time and place makes it possible to work and study after the principle of alternation. Therefore learning time has to be divided into small pieces (not smaller than 30 minutes) to facilitate the integration of time requirements of job and studies.
- To handle unforeseeable time restrictions, the products (of the job and of the learning process) have to be planned some time before they are scheduled (for example two days). In most cases, students will need this time buffer.
- To use the flexibility of both the employer and the teaching institution the conflicts about the scheduling have to be visible to both sides.
- If there is a big workload in the job and in studying, overtime is unavoidable.

The always-present decision on what is urgent and what is important is another facet of the “loneliness of the long-distance learner” (Bates, 1995, p. 52).

5. Summary

Further education at a distance has to take into account three different demands for content and three different time restrictions that in part compete and have to be brought together: the learner’s, the employer’s and the teaching institution’s. ICT-based DL gives the opportunity to optimize that because the learning process is independent of time and place compared to classical face-to-face further education. ICT-based DL combines the advantages of time and place independence with the supportive integration of a learning community.

ICT-based DL offers new opportunities but with little guidance from the experiences and knowledge of those involved. It will need some time until DL is anchored in the lives of both employers and employees as a rewarding experience of working and learning. Both sides have to build and internalize new skills: The employer has to learn that life-long learning is a responsibility of employers that needs time and tools (=learning material, courses). From the perspective of the learner, Garland describes the skills necessary to succeed in this new learning environment: “It involves not only having the ability to organize and manage their learning environment in terms of goals, resources and time, but also having the cognitive maturity to learn in a critical manner and to exercise higher order thinking skills.” (Garland, 1995, p. 77).

The MDE Online Program is an example of these developments: Curricula and course development are still evolving as a result of the conflicts that occur, employers are still learning to take their part in the life-long learning of their employees and the learners are still working on their learning process and how to manage the independence of time and place.
References


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