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 in some ways they seem likely to be in conflict with one another. Restrictions on the learner’s side with regard to time, place, and extended social environment and the interests and demands of the employer e.g. the teaching institution on the other side are not always compatible. Distance learning (DL) holds the opportunity to cope with these challenging interests, in that the DL process can be independent of time and place. Thus DL is a promising way to optimize the learner’s response to these competing demands and restrictions.

The Master of Distance Education (MDE) Online Program is an example of a DL program where especially learners who work in the field of DL can find a rewarding environment to cope with competing demands and restrictions. The intensive use of information and communication technology (ICT), the supportive concept of the MDE Online Program, support by the employer, course management, as well as other learner skills ensure the learning success and thus benefit all involved parties.

1. Whose Demand and Whose Time?

Learning on demand and just in time is a phrase that meets the reality of further education only coincidentally, as in an individually constructed, perfect learning situation with the right teacher or learning material at the right place and at the right time (e.g. personal coaching).

This article is about the learning situation of working adults who agree - with their employer and a teaching institution - to engage in some further education, with a particular 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 MDE Online Program and how learners, who work in the field of DL, as well as their employers can benefit from the synergies of this combination.

There is often an unwritten contract between the three parties mentioned above, whereby the investments and benefits for each party are fixed. Thus the person who at the same time learns and is employed needs to cope with three different interests concerning the learning process and success: the interests of the employer, those of the teaching institution, and her/his personal interests. Each of these has it’s own demands and time requirements and thus they often compete with one another.

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 employer’s goal is a return on the investment. The employer wants the learner to learn exactly what is required for the job, at just the right time.
The teaching institution

The teaching institution gets paid (public or private) for "producing" graduates. Depending on who the client is (the employer, the learner, the public) the teaching institution serves either the one or the other's interest. The teaching institution's goal is to recruit further students, and additionally, has teaching goals (a mission).

The learner

The employee invests time and/or money and wants to learn in her/his own interests. These can, but don’t have to, coincide with those of the company/institution. The employee’s goal is most likely to initiate some personal development or raise her/his employability on the job market.

Obviously, there can be conflicts between the interests described above. They relate to the content as well as learning time. As we will see, ICT-based DL is an option that facilitates balancing the different and possibly conflicting 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, p. ???)

Many persons who would like to be involved in further education are not flexible in either time or place. Restrictions in personal circumstances (family, job requirements) may compel a very individual structure of learning time that does not fit with any traditional face-to-face offerings. Possible examples are: The only possible learning times 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 times; circumstances such as family, costs, and job requirements, which may make it impossible to move to the university/department that is specialized in the intended content.

For these 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/department/courses that are specialized in the necessary content without the learner having to move around in the world.

It is important to mention that this access pervades only as long as the delivery of the content is asynchronous. Individual structure of learning time and international time differences would otherwise diminish the accessibility of content if delivered synchronously. The intensive use of ICT not only makes the chosen content omnipresent, but also allows the integration of the learner into a supportive learning community. Using the communicative potentials of ICT allows for 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 special skills in management, technology, teaching, training, and for developing countries. It broadly uses ICT to build learning communities and
individually supports the learners. All communicative activities and requirements are asynchronous. For a detailed description of the online MDE program see Bernath and Rubin in this volume.

Many students, like the author, in the online MDE program work in companies/institutions that use or will use DL in the future. That means the students are moving towards professionalism in the field of DL. Employees and employers move into new business areas and use the content in the online MDE program to facilitate, improve, and reflect on this development, thus building a sound foundation for their job and/or business area activities.

The particular advantage of this online-learning situation is that the learners work with DL, study about DL, and study via DL while always using and reflecting on ICT. Studying via DL is an additional learning level that all three stakeholders - the learner, the employer, and the teaching institution - benefit from. It ensures 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, and it should be possible to choose and/or adapt content to job requirements. Negotiation between employer and employee/student quantifies the benefits of the learning process and divides the costs (time and money) accordingly.

*The teaching institution* provides content that adheres to the requirements of graduation and has a value independent of one employer (corporate universities and corporate training are special cases and not considered here). The content should be more theoretical and independent and thus applicable to a number of job situations. For degree comparability it is necessary to more or less establish the contents with few 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 the present company/institution or externally in the job market. This implies a strong emphasis on content that is more theoretical and independent, and thus applicable to more than the present job situation. In addition, for competitive reasons there is an interest in degrees that are comparable to one another.

It is beyond the bounds of probability that these demands will always be identical and more likely is that only one or two of the three parties share common interests. Generally the learning outcomes go beyond the required new knowledge for the job and are also important for graduation. These additional learning outcomes can have a direct impact on the work process that cannot always be foreseen.

The overlapping of the different content demands is usually not explicit, but is important with regard to the support given by the employer, the outcome of the teaching institution, and last but, not least, for the success of the learner/employee. The overlapping demands for content can be illustrated as follows:
Figure 1: demands for learning content

Balance between demands for learning content

Overlapping employer’s and teaching institution’s demands (for example in corporate universities)

Overlapping learner’s and teaching institution’s demands (for example graduate studies at public universities)

Overlapping learner’s and employer’s demands (for example for personal development within the company)
Other figures are also possible, where e.g. two demand-circles do not overlap, but since this paper only examines learning on demand and just in time, the overlapping demands of learner, employer and teaching institution are the focus. The stability of the learning situation depends on how big or small the overlap is. 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 continuing education to be successful at any given point in the learning process there must be a consensus between the parties involved. They not only have to share requirements, but, based on their own demands and targets, create a situation where all and everyone's needs are met and fulfilled to the highest possible degree. Otherwise the party that is put at a disadvantage will resign from the contract. Thus, the amount of overlap and the stability of the learning process depend on the parties’ tolerance of the others’ interests.

So far, these contemplations are independent of the type of delivery of the learning content and are true for face-to-face as well as for DL further education.

Example: Master of Distance Education (MDE) Online Program

In this fairly new MDE Online Program some content details are still being developed and change with feedback from learners. Thus the learner, on the one hand, has a kind of steering function and influences her/his own studies and the direction of the program, while on the other hand this can also be confusing for the learner.

As mentioned above, a specialty of the ICT-based online MDE program is that the delivery system is also a form of content application and can therefore 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, the MDE program, and their own are to a certain degree in balance. There are different options, which the parties can (and do) use to enlarge the field of shared interests and demands, and thus stabilize the learning process and success:

Employer of MDE student:

Realistically, the employer does not know what the employee can or will learn. However, it is in the interest of the employer to utilize as many of the employee’s learning outcomes as possible, and which the teaching institution requires. How can transparency in this environment be optimized?

- Insight by the employer into the employee’s learning outcomes and regular reports on these from the employee.
- Companies/institutions in the field of DL are continually facing new tasks and demands. The employer must discuss, and where possible, allocate the studying employee's new skills to other business areas. Sometimes it is possible to reverse the process and adapt business tasks to these just learned skills.
- One important goal in the online MDE program is to reflect on different aspects of DL. The gained knowledge can easily be used for reflection on developments in the company/institution moving towards DL and could improve that process.
The online MDE program:

The online MDE program has to facilitate the overlap of employer's and employee's demands in order to satisfy the two clients, and at the same time ensure graduation. There are several structures within the online MDE program that allow the adaptation of content to the demands of employer and learner:

- Curricula: The online MDE program offers a variety of specific courses and certificates that meet the requirements of different business areas in the rapidly expanding world of DL. These certificates allow different foci: DL in developing countries, DL and technology, foundations of DL, library services in DL, teaching at a distance, and training at a distance. With seven core, four elective courses, and the final capstone project MDE students can either choose their own focus and/or study what best meets their employer's needs.

- Working with case studies: It is critical to integrate examples and case studies to ensure the transfer of the acquired knowledge into practice. The MDE Program encourages students to use examples from the learner’s job environment and to apply course content and learned material in these case studies.

- Related work: MDE students are required to build a personal DL portfolio, which serves as an ongoing professional resource, as well as a useful job search tool. Students are encouraged to let the portfolio grow over the period of study, thus making a connection between job and studies. Job related work must be submitted to and accepted by MDE faculty and can be in any language MDE faculty can support.

- Project: MDE students can document a case study or develop a project in the area of DL and training, thus practicing and displaying a variety of skills and knowledge. They can use their own company or institution for this case study/project.

MDE student:

The differing demands between the employer and the online MDE program with regard to learning content means a larger workload for the learner, who has to balance this. In this case the learner has to enlarge the shared interest in the content. At 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 work and study whenever possible in order to achieve more efficiencies. This means the student will try to adapt 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 and other products (calculations, illustrations, diagrams), and thus use the products more than once: for job requirements and the MDE online program.

- To some extent it is possible to select the content in accordance with job requirements, but within the fixed curricula. If e.g. during the next year the company/institution plans to discuss 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 concentrate on other/new job tasks after learning new skills. In an ever-changing business environment it may be feasible to tackle a new task that fits the just acquired knowledge. For example, after the student has
completed the course "student support in distance education" he/she could begin with the design of a student support system for a special situation.

- Every job related product (concepts, questionnaires, reports, reviews, publications, presentations at conferences etc.) can be reviewed to see whether it fits to any of the content offered in the online MDE program, and if so, enrich the personal portfolio.

The example of studying employees in the online MDE program demonstrates that program content can be well suited and tailored to the demands of all involved parties if they try to examine and understand each other’s perspectives. Again, all this is independent of the content delivery system.

4. Learning just in Time

Balancing the demands for content is a difficult task, but sounds quite easy when compared to the issue of time. The independence of time and place in DL does not mean there is no need for a time and place to learn. "Just in time" is often misunderstood: It means that learning success is available without delay. However, employers tend to delegate the time needed for learning to the employee’s private time sphere. In this case, and without a financial contribution from the employer, the overlapping circles are out of balance.

So, what does "just in time" mean from the three perspectives involved in the further education process that this article deals with?

The employer

The employer's demands are learning outcomes that are available before the employee meets the qualification. A learning outcome that comes late(r) could be viewed as useless for the employer and a waste of investment (time or money) on his part. Other than that, it does not matter to the employer when learning content is delivered or when the learning process takes place – with the restriction, that the learning process does not interfere with the fulfillment of other work related 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 learning outcomes in accordance with a timetable that leads to graduation in a reasonable time. A timetable shows steps towards graduation and is marked by courses and assignments within the courses. The important questions here are: How long will/should the program last, and how are courses and assignments scheduled to make it comparable to the programs of other institutions. The course content and its objectives have to be delivered before the assignments, however the assignment timetable dictates the timetable for content delivery and other learning activities.

The learner

The learner/employee wants learning outcomes (tested in assignments) with ample time to learn in accordance with ones individual timetable, before it is needed for the job, and before graduation.
This leads to a complex hierarchy of more or less urgent learning needs where each involved party has different views of urgency – i.e. of what should be learned in just what time. We could illustrate this 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 to or further away from point zero (which 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 into consideration and just work on the next deadline. Continuing education is an additional time consuming commitment in the life of a normal working adult, time is always rare, and allows for only the absolute necessary. The frame of this optimization process is imposed through the student's individual time restrictions, and by the teaching institution's and the company/institution's time requirements. Part of a "learning contract" between employer, employee, and teaching institution is an agreement on the time that can or should be reserved for learning. At best, one of the employer's contributions to the learning outcome is the dedication of work time (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, p. ??).

At the same time ICT ensures that the learner does not get lost and becomes a lonely learner, but is integrated in a learning community and individually supported by faculty. Nonetheless this integration in a learning community and support by faculty are time consuming and forces the learner to invest time and schedule shared activities. Yet it most often ensures a quick return on the learner's time investment and 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 extensive use of ICT?

Employer of MDE student:

The employer benefits from the learning outcomes. An unwritten contract between learner and employer with regard to the employer’s contribution and its value is stipulated. This can be either time and/or money.

- The amount of work time the student can spend on studies depends on the time necessary for learning on a whole, and agreement on an allocated portion of time.
- Set study time: It is helpful if agreement on a predetermined time for studying, for example the first working hour in every day, can be reached. This allows continuity with regard to the communication requirements in the MDE online program, and anchors learning as a work task in both the employer’s and employee’s perspectives.
Flexibility of work time: To fulfill the requirements of graduate studies learners need flexible work time, especially when the study load is higher, e.g. before assignments deadlines. Within reason the employer has to accept the learning task being the first priority at some times. At other times, i.e. during semester vacation, the study load will be lower.

**MDE Program:**

The MDE online program must balance, on the one hand, time requirements that are necessary to build studying communities and to graduate students, and on the other hand give students the necessary flexibility and structure to facilitate study.

- Flexibility with deadlines: MDE faculty show some flexibility in regard to deadlines if the learner is in a difficult personal or work situation.
- Asynchronous learning settings: All required communication between faculty and students, and between students is asynchronous (email, conferences, posting documents). This means in practice that courses are scheduled into 2- or 3-week partitions, within which students have time to complete the required tasks (reading, discussing, writing assignments). It is relevant for the grade how students complete their tasks, but it is not relevant when they work on them. How flexibly the learner can manage her/his learning time within the schedule of a course depends on the amount of required group work, because this can – to a certain extent - mean the synchronization of learning processes.
- The learning setting independent of place: No matter where the learners are, as long as they have internet access they can access their learning environment, content, classmates, tutors, and support.

**MDE student:**

Time management skills are essential for students in the MDE online program. In face-to-face further education programs/courses learning times are fixed and when the learner arrives in the classroom no one (not even the employer) disturbs the learning process. In distance education learners must decide between study and the importance and urgency of work. In DL time management is not a question of days or half days but of half hours, thus allowing the student to optimize the workflow and the learning process (and her/his private time). Of course it is more efficient to organize larger time spans. However, between various deadlines, meetings, group work, routines, train departure time, and emergencies … a half hour of reading time can be a gift, whereas when writing assignments less than a two hours does not seem to make much sense.

A student’s time (and its management) is dictated by the time sensitive requirements of the employer, teaching institution, personal commitments, and their “hierarchy of importance”. 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 alternatingly. Therefore learning time has to be divided into small pieces (not less than 30 minutes) to facilitate the integration of all time requirements.
- In order to deal with unforeseeable time conflicts job and study products have to be planned ahead (for example two days). In most cases students need this time buffer.
• To reach a high degree of flexibility and avoid conflicts both the employer’s and the teaching institution’s schedules have to be known to all sides.
• If the workload in both work and in study are large, overtime is unavoidable.

The always-present decision of ‘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 three different demands for content and three different time constraints into account. In part they compete and have to be brought together: those of the learner, the employer and the teaching institution. ICT-based DL provides the opportunity to optimize these competing needs because the learning process is more independent of time and place when compared to classical face-to-face further education. ICT-based DL combines the advantages of time and place independence with the supportive integration in a learning community.

ICT-based DL offers new opportunities, but all involved are confronted with a lack of experience and knowledge on how to use these opportunities. It will take some time until DL is anchored in the consciousness of both employers and employees as a rewarding experience in both the work and learning environments. Both sides have to build and internalize new skills, and a new work and learning culture: The employer has to realize that life-long learning is also a responsibility of employers and requires time and tools (e.g. learning material, courses). Garland (1995) describes the skills necessary to succeed in this new learning environment from the learner's perspective: "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 changes: Curricula and course development evolve as a result of the occurring conflicts, employers are still learning to take on their part in their employees’ life-long learning endeavors, and learners are still working on managing their learning processes and the independence of time and place.

References

