Blended Learning Concepts – a Short Overview

Sonja Trapp

Fraunhofer Institute Experimental Software Engineering
Fraunhofer-Platz 1
67663 Kaiserslautern
sonja.trapp@iese.fraunhofer.de

Abstract. This paper presents a short overview of blended learning, showing arguments for and against these concepts. Potential blended learning scenarios are described that vary depending on the degree of instructor involvement, learner self-organisation and on-line moderation or coaching. The paper ends with an example of successful application of a blended learning concept in industry.

Definition of Blended Learning

Blended learning can be defined as the combination of multiple approaches to pedagogy or teaching, e .g. self-paced, collaborative, tutor-supported learning or traditional classroom teaching. Blended learning often refers specifically to the provision or use of resources which combine e-learning with other educational resources.

Some authors talk about "hybrid learning" [6, 7], "mixed learning" or "multi-method-learning". However, all of these concepts broadly refer to the integration (the "blending") of e-learning tools and techniques with traditional methods. Computer-based learning is no longer regarded as an alternative to traditional forms of learning/teaching. It is integrated into a learning arrangement which combines those methods that have been selected for a specific learning purpose or environment.

Blended learning is not really a new concept. Teachers have always been using 'combined resources'. Basically, blended learning is just a combination of teaching or facilitation methods, learning styles, resource formats, a range of technologies and a range of expertise.

Blended learning is actually a sort of a return to traditional learning concepts. Traditional training also relies on phases of self-directed learning. In classical classroom training, the didactical strategy is based on the

- presentation of content by a teacher / trainer
- interaction between teacher and students and among students
- follow up of content presentation and exercises (homework), to be done individually or in groups /pairs.

In this respect, blended learning is also a return to teacher-centered learning scenarios, as the main responsibility over

- content structuring and didactical presentation of content
- learner support and control
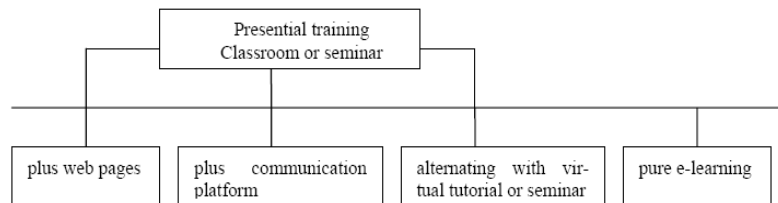- organisation of social learning

remains on the teacher's side.

Blended-Learning Concepts

Blended Learning concerns not only different methods, but also different theories of learning and applies these theories by using traditional and new media. It affects different levels:

- the **theoretical** level (combining different theories of learning, like constructivism, cognitivism, behaviorism)
- the **methodical** level (combining self-directed with instructor-led learning, individual with cooperative learning, receptive with explorative learning, etc.)
- the level of the **media** (combining face-to-face with on-line elements; using different media, like books, video, CBT, etc.)
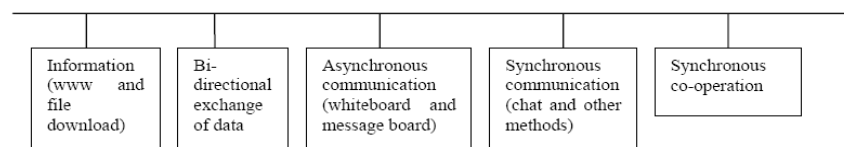
A formal classification of learning scenarios based on the criteria of form, function and method, may help to structure different potential blended learning concepts (as described in [12]).

„**Form**" describes the organisational form of e-learning and its integration into institutions. Organisational forms can be traditional classroom sessions or pure e-learning.
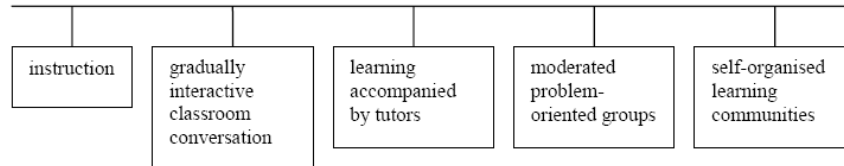

Fig. 1. Organisational forms of e-learning

„**Function**" might be mere information, direct communication or synchronous co-operation.

Fig. 2. Functions of learning

„**Method**" refers to the different theories of learning and comprises instructor-led training, interactive courses or self-directed learning.

Fig. 2. Methods of learning

Combining these three levels leads to four different learning scenarios:

Table 1. Classroom training accompanied by web components (priority given to classroom training) **(Scenario I)**

	Presential component	**virtual component**
Form	Priority given to classroom training	Web components additionally used
Function	Varying	Information
Method	Varying	Instruction

Table 2. Equal importance of classroom training and web components **(Scenario II)**

	Presential component	**virtual component**
Form	Classroom training equally important	Website & platform equally important
Function	varying	Information & communication
Method	varying	Instruction, tutor support

Table 3. Integration of presential and virtual component **(Scenario III)**

	Presential component	**virtual component**
Form	Classroom training integrated	Website & Platform integrated
Function	varying	Information & co-operation
Method	varying	Moderated groups

Table 4. Virtual seminars and learning communities (no presential activities) **(Scenario IV)**

	Presential component	**virtual component**
Form	No classroom training	platform, cooperative tools
Function	Not applicable	communication & co-operation
Method	Not applicable	Groups and learning communities

Blended Learning Enriches E-Learning

Blended learning does not make the learning process easier than traditional classroom training. E-learning costs still as much effort as any other kind of learning. Every kind of self-directed learning is difficult and uncertain, because the individual learner has no opportunity to find out about his own progress. With blended learning, the comparison of individual learning progress with that of other learners is being facilitated.

Blended learning means more effective and more sustainable learning. This is especially true if the learners are accompanied by e-moderators [11] or e-tutors [8] or by project coaches.

If blended learning is only e-learning with additional classroom training, it does not make the most of technology-enhanced learning. Experienced distance learning institutes (like, e.g., the Open University www.open.ac.uk/, the Tele-Akademie www.tele-ak.de) have always been working withing on-line tutors or on-line moderators. If excellent e-moderation services are offered, there is almost no more need for classroom sessions. A face-to-face meeting would then be organized only for creating a personal/social relationship between learners and moderators/tutors and/or trainers at the beginning of the training session. But in many cases there will be no physical meeting at all. E-moderation services can offer
- motivational support (to prevent high dropout rates in distance learning)
- support with learner problems
- support with content problems
- support with technical problems
- moderated virtual learning groups
- collaborative work on the same project.

Especially with geographically distributed individual learners, e-moderation services are essential for learner satisfaction and learner success.

Is Blended Learning the Best Possible Method?

Blended learning intends to take the best of both worlds. From classical classroom training, it takes the
- teacher driven presentation and selection of relevant content
- social interaction
- the dialogue between student and teacher.

Concerning e-learning, it benefits from the advantages of self-paced learning, i.e.
- Learning anytime everywhere.
- Students can work through a specific task or problem as often as they want, until they reach their learning goal. In classroom training this would be impossible. This is why e-learning is said to be more effective and sustainable.
- The possibilty to form virtual groups for specific topics or specific levels of competence.

It is doubtful, however, whether blended learning is the ideal concept for work-based learning, for the integration of learning into work processes. Dividing the learning process into presential learning and on-line learning may result in too much teacher-centered structuring and thus prevent the learner from taking over more responsibility for her/himself. It appeals more to those learners who prefer to lean back and listen, not to the active learner required by problem-, project- or work-based learning.

Successful and effective learning is always related to the degree of implication of the learner in the learning process. With problem-oriented and explorative learning methods, learners are directly implied. However, very few web-based trainings have been built on problem orientation and exploration – they mostly reflect (hierarchical) coursebook structures with fixed scope and sequence that cannot be changed.

Moreover, studies [3, 10] have shown that people do not learn during their working hours. At least when it comes to working through on-line courses and exercises. On-line learning happens mostly at the end of working time, after work and during leisure time, and is thus not integrated at all into normal work processes.

Another interesting aspect of a recent study [3] was that on-line students largely prefer the print version of a course and spend much less time on-line than expected. Reasons for this are the preferential learning styles of the students and the fact that the print-out is more flexible and better available for mobile use. This can be interpreted as a sort of set-back for web-based training courses which do not seem to provide any added value compared to textbooks.

This leads to the conclusion that the design of web-based trainings has to be at least as good as good that of good textbooks. Browsing and scrolling through web pages instead of skimming through printed pages does not have any pedagogical added value and seems to be more cumbersome than reading a textbook.

Blended learning is definitely a good method in this period of transition, where e-learning still lacks of wide-spread acceptance. Practitioners of e-learning agree that blended learning helps learners to gradually get used to technology-enhanced learning offers, and to make them understand the advantages for their own personal progress.

Blended Learning and Change Management

There are several reasons why the introduction of e-learning in companies was often regarded as a failure in the past [5]:
- lack of internal marketing and insufficient information on e-learning offers
- lack of support from management level
- high level of self-motivation and self-learning skills required from learners
- no explicit rules for learning at the workplace
- no rules for acknowledgement of qualifications acquired by E-Learning
- lack of social exchange and direct feedback
- high initial investments and low return on the investment.

The introduction of e-learning or blended learning is a change process that has to be explicitly designed and directed. In companies with successful introduction of e-

learning, changes concerning the training method were welcomed and actively supported by the managers. Habitual work processes have to be arranged in a different way if they are to be combined with learning processes. To create an atmosphere conducive to learning at the workplace is not an easy endeavour and presupposes a fundamental change in thinking. The organisational culture must reach a state in which individual knowledge and competence is integrated into daily work processes [4]. If agreements on objectives and incentives for learning are set up between managers and employees, the latter will find out for themselves when and where to learn. There is already a strong tendency of shifting training phases into people's leisure time.

Applying blended-learning concepts does not mean a radical change, as elements of traditional training are still present. This is positive because in change management it is important to find a balance between things that have to be changed and those that are worth keeping [5].
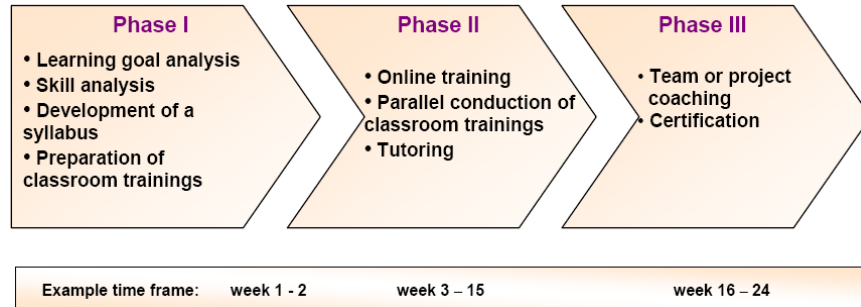
E-learning or blended learning can only be a success if it receives the same amount of attention as any other kind of training. Self-directed e-learning should be acknowledged in the same way as attending classrom training sessions. The e-learning process has to be accompanied, analysed and constantly improved.

There will be a win-win effect for both employers and employees if the concept and organisation of blended learning programmes is based on a work process perspective. Only then will operating efficiency and productivity of the company rise, and employability will be strengthened [9].

Successful application of a blended learning concept at Fraunhofer IESE

In [1] and [2] experience reports are given on blended-learning programmes performed with customers from industry and academia. Based on various observations and experiences with both "traditional" and e-learning, a blended learning approach was proposed with the following structure:

1. Kick-off meeting of all participants, their teachers, and tutors.
2. On-line learning phase to provide knowledge and skills.
3. Traditional course.
4. Final project work.

Fig. 3. Blended Learning in three phases [1]

The kick-off meeting serves as a get-together for students, tutors and trainers, with an introduction to syllabus and schedule. The on-line learning phase is supposed to leverage the knowledge and skills of the participants, which is a prerequisite for the following traditional class. The online-course comprises about 25 on-line learning hours and 10 practical exercise hours, which are normally dispensed over four weeks. It provides several navigational strategies and different entrance points in order to meet the requirements of a heterogeneous group of participants (e.g., inexperienced participants can follow a guided tour). Furthermore, participants can select one out of four modules according to their already acquired knowledge as starting point for dealing with a particular topic.

The modules are defined as parts of a virtual project where participants are part of the project team and have to support their virtual "supervisor". The "supervisor" supports participants through expert knowledge or through self-control questions and exercises (e.g., every participant has to solve a modeling task and has to submit his solution for feedback). The results of practical exercises are then regarded as a pre-test for the following class.

The following classroom training is organized as a mix of both presentations and group work. Finally, participants are asked to perform, alone or in a small group, a specific project work as final exam. The results are evaluated by the same tutors/ trainers who have been playing the role of guides and experts [2].

Informal interviews with participants, and more general feedback from the company, indicate that blended learning is efficient in terms of changing learner behavior, especially when it is enriched with additional transfer supporting activities, such as individual coaching.

There is a great demand for examples and course material that makes use of information that can easily be integrated with routine work tasks and is not solely based on theory or from existing textbooks. In building and extending the course we have come to appreciate the need to enrich self-paced learning with specific transfer supporting actions that can be adapted to a specific domain and individualized to the learners day-to-day work. Based on our experience, such transfer-oriented efforts help the participants to apply the new knowledge more easily.

In self-paced scenarios special attention has to be paid to learner's motivation. It is very important to provide further support in the application of the new knowledge and

encourage learners to try out their knowledge in new situations (i.e., encourage them to transfer their knowledge). Furthermore, motivation is increased when the results of completing the course are acknowledged and recognized within the company by some form of certification [13].

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