Training and Qualification: Essentials of New Learning

19

Hartmut Scholl and Andrea Baldus

Contents

Abstract

In an environment where the only constant is change, learning has become absolutely essential to every organization's competitiveness. The rise of learning has precipitated a dramatic change in exactly what learning means in an organizational context.

H. Scholl (✉) • A. Baldus
reflact AG, Oberhausen, Germany
e-mail: hartmut.scholl@reflact.com; andrea.baldus@reflact.com

M. Zeuch (ed.), *Handbook of Human Resources Management*,
DOI 10.1007/978-3-662-44152-7_28

Digital media play a pivotal role in this transformation. They enable necessary changes – not only to how people learn within organizations but also to how organizations themselves can become much-heralded "learning organizations."

Demand is growing fast for new learning approaches that support performance and can be initiated and accessed on the fly from the workplace. Supply, on the other hand, has not kept up. This is largely because learners, and the professionals who initiate learning, lack sufficient experience in integrating modern media, particularly Web 2.0 tools, into learning processes.

Against this backdrop, it has become essential to fundamentally redesign training programs with respect to media integration. This chapter focuses on Blended Learning 2.0 programs. In section "Introduction: New Learning: A Key Strategic Field for HR Managers", it identifies the main forces shaping the development of learning and debunks common myths surrounding the use of (Web 2.0) media in organizational learning. Next, section "What is New Learning?" highlights the changes at seven concrete levels – from the shift to more informal learning right up to new target groups for business learning – and provides an overview of important formats and tools.

Section "How New Learning Programs Come About" presents a key piece for the rest of its argumentation: a framework for developing Blended Learning 2.0 programs that fit in with the new learning philosophy. The development process is then explored – from the requirements analysis to blueprints and miniatures to the detailed plan for a new training program. The section concludes by going "outside the box" of formal education programs and looking at high schools and universities.

Section "Leveraging the Opportunities of New Learning: Four Management Perspectives" analyzes the context from four perspectives that play an important role in the innovation/change process – from analyzing culture and emotions to evaluating risks and obstacles. Section "Final Comments and Outlook" presents concluding remarks, looks ahead to the future, and encourages further thought and discussion.

Keywords

E-learning • Course centric • Blended learning • Web 2.0 • Informal learning • Social learning • Performance management

Introduction: New Learning – A Key Strategic Field for HR Managers

New approaches to training and people development – which this section groups under the term "new learning" – represent an important field of endeavor for every HR manager. These innovations have refined or revolutionized complementary concepts and technologies and opened up new, relevant options for a wide range of people and organizational development processes.

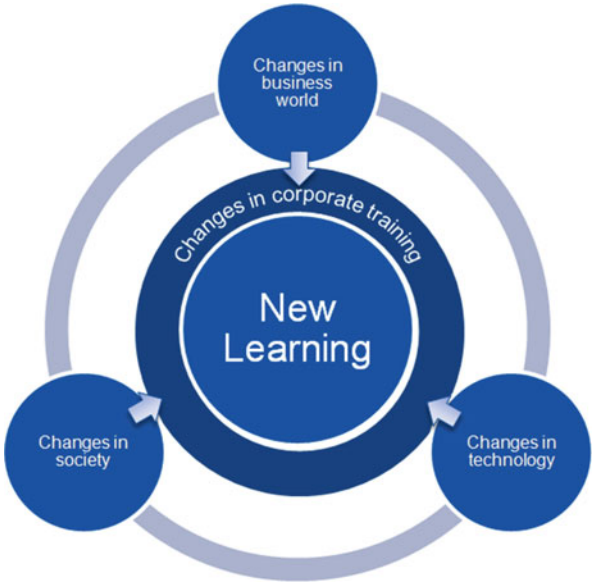


Fig. 1 Changes that affect corporate training

This introduction explains why new learning has gained so much importance in recent years, evolving into a field in which every HR manager has to stay current. The following section also describes the reasons for the recent revolution and future changes in learning and argues that HR managers should assume a special role in this emerging field.

Corporate training has been completely transformed in the past two decades, mainly due to changes in three areas (see Fig. 1):

- Business world
- Technology
- Society

In today's **business world**, nimbleness has become an essential survival skill for organizations. The ability to adapt to new circumstances – new competitors, new technologies, new markets, and new customer needs – is a, if not *the,* critical competitive edge. It is determined by the pace and depth of change across all organizational levels. These two factors – pace and depth – are particularly strong in organizations that have found efficient, effective tools and methods for organizational learning. This is a key competitive advantage that can be unlocked by acquiring the capabilities of a learning organization. That raises the stakes for corporate training immensely.

Technology has undergone a dramatic transformation since the 1990s. The revolutionary new possibilities created by Internet technologies and successor innovations such as increasingly powerful, connected, and ubiquitous mobile devices have permanently changed the way people learn, train, and work in organizations.

They grant access to a virtually limitless pool of knowledge, manage and track use, and provide a wide range of communication possibilities. Combining these capabilities with Web 2.0 technologies allows the emergence of a new type of organization: Enterprise 2.0. By using these tools and approaches for internal and external communication and collaboration, the enterprise and its teams develop entirely new abilities to manage core processes and innovations.

Alongside the technology revolution, **society** is undergoing dramatic changes that will alter the face of future corporate training programs. Plummeting birth rates in Western industrialized countries will intensify the already fierce war for talent in the years to come. The remaining skilled professionals, for their part, will take a very different view of organizations and their personal development programs. Innovative training and development programs have become integral to employer branding. New and future workforce entrants will take web-based education and communication tools for granted.

These changes affect the goals and expectations of **corporate training**. This key business function has to respond to needs faster and adapt to new organizational realities, such as the existence of a global workforce. In addition, learning enables two different activities: talent management, i.e., developing talent within an organization to meet specific goals, and performance management, i.e., supporting the continuous improvement of individual and organizational performance. These changes, along with vocal demands for learning programs that are better, more personalized, and more tailored to specific positions, have greatly encouraged the use of web-based technology in corporate training.

These factors drove the first wave of e-learning activities – i.e., the use of Internet- or intranet-based learning programs – around the turn of the millennium. The programs were progressively integrated into a comprehensive blended learning system at varying paces, depending on enterprise maturity. E-learning units were combined with instructor-led classes in a way that maximized the benefits of each method.

The initial, rather sobering experiences with e-learning or blended learning programs coincided with major changes in educational theories and ultimately led to a search for new possibilities. The more personal development professionals look at contemporary web-based training programs, the more they come to question educational models such as self-study through e-learning under two aspects:

Instead of encouraging debate and reflection on the material individually or in groups, many web-based training programs thrust learners into the role of a passive recipient, following nineteenth-century paradigms and ignoring modern educational models such as constructivism. Web 2.0 tools can help tremendously by integrating social and constructivist moments into learning processes and thus making them more open, agile, and effective. This results in Blended Learning 2.0 processes, whose development and key success factors are detailed in this article.

The second aspect is equally relevant: Typical corporate development and training programs are completely course centric. They rely on formal processes for covering prepared material in technology-based and classroom settings. However, individuals tend to learn the most from interacting with coworkers, experts, or customers at work, not from completing e-learning programs or instructor-led

seminars. So how does this fact affect what HR units do and what requirements they are expected to meet? The new technologies offer an opportunity to reach out to learning employees outside the virtual or physical classroom and to develop new ways to support workplace performance management.

The new learning approaches presented in this section provide an interesting perspective on these issues for the corporate education professional.

When it comes to supporting informal on-the-job learning, however, relatively few proven tools do exist.

Luckily, real-life experiences with Blended Learning 2.0 processes provide a valuable insight: When incorporating Web 2.0 tools into formal training programs and thus teaching students how to use them effectively, education professionals are indirectly promoting the parallel development of informal learning processes that benefit greatly from these tools. That is why this article advocates the inclusion of Web 2.0 tools in training programs as much as possible. It strengthens users' media literacy and enables HR managers and learners to design and manage informal learning processes more consciously.

Clearly, various factors are changing the face of corporate training and will continue to do so in the years to come. One of these factors is new technology, since it allows training programs to acquire a heretofore unknown degree of quality and reach. First, programs will become less tied to a particular location and encourage more interaction with others. Second, they will target the individual's needs more specifically but still be available more quickly than conventional training products. Third, they will be integrated in formal learning processes but remain flexible, customizable, and tightly integrated with work and knowledge processes.

HR managers will take on an important new role in this process: They will be responsible for launching and refining these processes. They will have to apply their skills as advisors and process enablers in order to develop these training programs. To help the stakeholders understand the challenges ahead, the following section will debunk several myths surrounding new learning and its use in an organizational context, based on observed best practices from the business world:

- **Myth 1: New learning is all about the company's technical infrastructure.** Most technologies – including those described in this article – can be used online and require nothing more than a standard browser. Organizations can also subscribe to technology via a software as a service (SaaS) program, eliminating the need for in-house installation or hosting. It is, however, absolutely essential to have IT professionals on board, particularly in the first several sub-projects. Even if there are very few instances where technical infrastructure would be a showstopper, integration requirements and security standards should – and can – still be adequately considered.
- **Myth 2: It takes a lot of time and money to get started with new learning.** The external start-up costs for new learning depend heavily on the program design. This is described in more detail in part 4 of this section. It is possible to start a new learning program on a modest budget as long as you take small steps and use SaaS process infrastructure as well as software tools to generate content

and modules yourself. This is particularly true if you compare new learning to other training models. Electronic delivery is not only more efficient but – if done properly (see part 3 of this section) – also more effective. This does not, however, mean that the internal costs are negligible, particularly for initial projects. It should be remembered, though, that most of this investment goes toward developing valuable skills for the HR manager of the future.

- **Myth 3: New learning only makes sense for companies with more than 1,000 employees.**
  Many companies successfully use new learning despite having far fewer employees. Between the flexible solutions, countless sources for off-the-shelf content, and access to (inexpensive) Web 2.0 tools, it is possible to provide cost-effective new learning programs for relatively small teams and organizations. Ultimately, company size is less important than the drivers described above. Head count is a misleading metric anyway since new learning programs are often ideal tools for developing market partners and customers outside of traditional organizational boundary lines.
- **Myth 4: New learning is only for white-collar workers.**
  There are once again countless real-life examples to disprove this myth. Nevertheless, the content and learning process must still be adapted to employees who have less experience learning and using technology. The first step in developing a new training program is thus to analyze the target group and their study skills and media literacy. Once this is done, it is certainly possible to develop successful training programs for blue-collar workers.

  The following section of this article looks more closely at new learning and clarifies several key terms used in current discussions. Then, it provides an overview of the huge variety of available approaches and tools by presenting brief profiles of key tools.

What is New Learning?

Formal Training Programs Compatible with New Learning: The Evolution of E-Learning into Blended Learning 2.0

Learning has changed dramatically in the last two decades. Educational software was introduced in the late 1980s but was completely revolutionized by the advent of Internet technology (see Fig. 2). Now, training programs can be published on the Internet or corporate intranet in order to give all employees worldwide access to the same content. Homework or test results can be uploaded to a central server to track student progress and grade the learners' work. The efficiency gains are enormous. However, many organizations are still reluctant to use e-learning or have only just begun to consider adopting it.

The evolution of learning platforms has enabled successful e-learning adopters to refine their training programs. They can now integrate curricula or learning pathways into their learning platform in order to build a learning process out of different

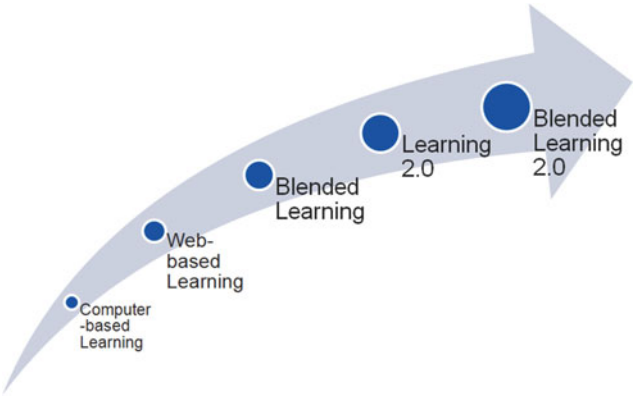


Fig. 2 The evolution of digitally supported learning in courses

educational software programs, online quizzes, and instructor-led classes. Students navigate the learning process by meeting certain conditions and gradually unlocking modules to create a partially customized training program. This combination of online training and instructor-led learning is known as "blended learning." Training professionals quickly learned that blended learning processes can be made more sophisticated by incorporating modules such as completing documents, meeting with managers, or attending face-to-face events such as workshops.

This trend continued as the adoption of Web 2.0 tools took off. More and more wikis, blogs, or forums are being incorporated into learning platforms as part of a training program. After using these technologies as mere Learning 2.0 communication tools, many training professionals are now looking for process ideas in order to incorporate them into specific tasks in the blended learning process. This type of scenario is referred to as Blended Learning 2.0.

A practical question: "If I want to adopt new learning at my company, do I have to go through each stage in its evolution one by one or can I just start with Blended Learning 2.0?"

There is no rule saying that you have to complete the e-learning and blended learning stages before adopting Blended Learning 2.0 at your company. It may even make more sense to start out with the latest adaptable, personalized training program that is social even in the online phase. For example, participatory learning is often preferred over conventional, cognitively oriented classes, especially for training related to change processes. Also, a Blended Learning 2.0 program makes it easier to credibly identify skills that must be acquired before an organization can make the strategic shift to Enterprise 2.0. The adoption of new training methods, however, is a change that affects learners, their coworkers, instructors, and HR managers. After all, Blended Learning 2.0 programs require students to have advanced self-organization and self-study skills, managers to support their employees, and instructors to moderate the learning processes.

Beyond Course-Centric Learning: New Learning and Informal Learning

Learning will obviously continue to evolve. As mentioned in the first section, there is much debate about expanding the learning concept to include informal, non-course-centric learning. Despite all its flexibility, decentralization, and social features, Blended Learning 2.0 extends very little, if at all, into our work context. Bearing in mind, once more, the goal of facilitating enterprise-wide performance management, one cannot avoid the question how learning – in the context of individual performance delivery – can be supported.

New learning embodies this more expansive vision: It incorporates formal training programs, including Blended Learning 2.0 processes, but also integrates non-course-centric learning processes. Skillfully managing the first aspect is the best preparation for successfully designing processes in the second category.

New Learning: The Field Today

New learning can best be defined by presenting the most important development directions that currently shape new learning and training programs. They are summarized in Fig. 3.

From Formal to Informal Learning

Organizing formal learning takes up most of the attention in corporate training departments. Formal learning comprises all training activities conducted in a structured, organized fashion (defined training programs with formulated learning

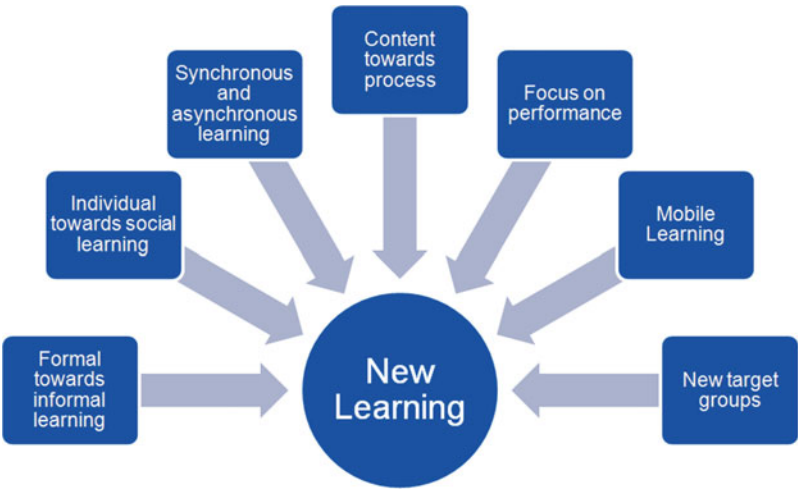


Fig. 3 Central development directions that shape new learning

objectives) and obviously designed to achieve certain goals. Informal learning, by contrast, comprises learning processes that occur as part of an ordinary workday and are often rather casual or at least are not deliberately chosen for their educational quality. Typical informal learning processes include using new technologies such as a tablet PC or attending an industry event.

The growing importance of informal learning processes in the corporate training industry has much to do with the 70/20/10 model. It states that 90 % of knowledge and skill acquisition comes from informal learning processes – with 70 % acquired from one's job and 20 % from interacting with others – and only 10 % from formal learning. This assumption, based on studies conducted by McCall, Lombardo, and Eichinger (Lombardo and Eichinger 1996), suggests that training professionals have to examine their possible and perceived roles with respect to learning processes outside of classrooms and class catalogs. There are several important questions to answer: How can education professionals support and optimize on-the-job learning with our current processes, tools, and methodologies? How can HR managers apply their insights from today's highly class- and instructor-centric learning to informal knowledge acquisition and transfer processes?

Even if our jobs as HR managers – like this article – revolve mainly around designing formal training programs, these programs hold many lessons for informal learning as well. Being experts in learning processes, HR managers are perfectly positioned to optimize existing processes and tools for informal learning or to develop entirely new ones.

So how does this apply to your new learning agenda? Bring your core training programs in line with the latest Blended Learning 2.0 approach, gain experience with more agile, technology-supported learning methodologies, seek out the current state of the art in informal learning and tackle challenges of relevance to you. Then, in the next several rounds, you can become a driver of good ideas and an advocate of a practicable quality concept.

Individual Versus Social Learning

As learning technologies evolve, it becomes increasingly possible to personalize learning processes and programs. Content and learning programs can be chosen and delivered to users based on their test scores, previous knowledge, or learning platform activities. This produces individual learning processes that are even more targeted and effective than ever before.

Learning programs built around web-based tools were long focused on individual learning – i.e., self-study – even though the importance of social learning was and remains clear to all teachers and education researchers. Now, blended learning has gradually reopened training programs to social learning by combining material covered in self-study with instructor-led classes. There is a growing, widespread trend to allot more space to social learning in formal training programs, including online phases. Many good reasons are behind this trend:

First, an abstract consideration: In an era where an organization's actions are driven by a shared understanding and assessment of reality, interactions between organization members help strengthen their ability to act cohesively. In times of

rapidly accelerating change, students' knowledge and potential recent experiences can complement formal lessons on existing content that are captured in documents or taught by instructors.

In addition, social media and tools such as weblogs, microblogs, discussion forums, and wikis, though asynchronous and location independent, also enable students to interact closely and socially in training programs and retain significantly more material over the long term, as the application of Blended Learning 2.0 processes has shown.

So how does this apply to your new learning agenda? Make sure to give social learning enough space in your training products and combine it with the highly efficient, flexible method of individual e-learning.

Synchronous Versus Asynchronous Learning

There are two types of training programs: synchronous programs that students attend simultaneously and asynchronous programs that students complete at their own pace.

Initial e-learning programs provided enormous efficiency gains based on their inherent asynchronicity. Even today, this is part of the charm of material that can be learned through self-study. Incorporating social learning moments into these programs, however, makes it increasingly difficult to work through material asynchronously because students end up waiting for others to complete upstream tasks first. One typical example is discussion forums where students ask questions and wait for other students to answer them. Nothing is more demotivating than sitting around several days for an answer.

This problem can be resolved by integrating more synchronous learning experiences into training programs. Virtual classrooms and other technologies allow synchronous modules to be completed remotely. Conventional instructor-led classes or workshops are still perfectly legitimate parts of the learning process, but their focus will shift from teaching new material – which is covered by other modules in the blended learning process – to completing assignments and participating in discussions.

So how does this apply to your new learning agenda? When staging your course, make sure to strike a sound, complementary balance between synchronous and asynchronous experiences. Provide enough space for simultaneity in social learning. Use the powerful, flexible tool of virtual classrooms.

Content Versus Process

Since the advent of Blended Learning 2.0 – i.e., multiphase learning processes that use Web 2.0 tools – the focus has shifted from the course material to the learning process itself.

In past e-learning productions, much of the effort went toward developing multimedia course content. While the resulting content may have been well presented, it proved to be an inefficient use of resources since the chosen teaching method – self-study – was limited in its usefulness and applicability to a busy

workday. The high-end content turned out to be impractical, too, as training professionals realized that it was complicated and time consuming to modify and maintain.

Blended learning processes have ushered in a procedural paradigm that relies on powerful infrastructure. As such, program designers have shifted their focus from content to the process: Instead of generating shiny course material, they are more interested in productive workshops in virtual classrooms or surprisingly enlightening WebQuests. This also leads to a renaissance of pragmatically prepared content such as well-structured documents embedded as links or video clips selected from a recorded webinar.

Another outgrowth of this trend is game-based learning, also known to developers as gamification. Games create a special relationship between content and the process, although the gaming elements generally come from a cleverly designed process, not from the content. This genre includes learning apps in which users compete with themselves or others to answer test questions and obtain certain scores.

As such, when this article looks at developing a Blended Learning 2.0 process, it deliberately focuses on the development of the learning process, not the course material.

So how does this apply to your new learning agenda?

First, invest time in the overall learning process and possibly the transfer process. Once you have rid yourself of delusions of producing overly polished content, take a look at the current crop of media production tools and start to develop your own skills in highly focused experiments and pilot projects.

From Learning to Focusing on Performance and Development

Another factor coloring the new learning debate is the growing focus of learning activities on development and performance. In many organizations, learning and development (L&D) professionals have successfully established themselves as business partners who carefully tailor their programs to meet the business' needs and to deliver services that improve performance. New learning programs must be designed to achieve the same goal. Performance orientation thus dovetails with the current renaissance in the promotion and tracking of knowledge application in e-learning.

Performance should be understood very broadly, though. Instead of only using short-term operational indicators to define targets and measure performance, the targets should include long-term dimensions such as adaptability or learning skills as well. In any event, performance support – which generally proves its value in day-to-day operations – will gain even more importance in the years to come and be a driving force in new learning projects.

So how does this apply to your new learning agenda? The difference between application and performance is very real. In a way, it represents a paradigm shift from a course-centric view to an array of flexible strategies for supporting day-to-day operations. Invest in experience so that your activities will directly impact day-to-day operations. There are many fantastic ways to drive the evolution of training programs so they penetrate the work environment more deeply.

Expanding Learning Interactions and Learning Venues: The Significance of Mobile Learning

Mobile learning, also known as "m-learning", refers to all educational activities performed on mobile devices such as smartphones or tablets. These fabulously successful devices – approx. two-thirds of the population use them to go online in Western industrialized nations, and many more people join them every day – represent an entirely new touch point to learners.

Mobile access holds untold opportunities for new learning. There are many advantages compared to PC-based learning. For one, mobile devices are highly available. They are often taken into meetings or on business trips and are always online and connected to the current knowledge base and the latest community communications. That makes them an ideal tool for learning in a work environment. Also, they can be used to deliver short reminders or content. These "push messages" can support a variety of goals such as the application of knowledge. For example, students can be sent learning nuggets that briefly summarize lessons and suggest specific ways to apply them at work in later stages of a blended learning process. This supports the transfer of knowledge from the classroom to the workplace.

In addition, mobile devices also provide fast, easy access to social tools that students can use to interact with other learners or team members, communities of practice, and even the instructor. They also come with many extra features such as cameras for photos and videos, calendars, and localization. These functions make it much simpler to evaluate content or invite comments on a picture from the learning community than on a PC. This is where mobile devices can help drive the evolution of informal learning processes.

A look ahead to the future will reveal even more promising innovations on the horizon. First, learning programs on mobile devices have yet to discover many existing smartphone functions (e.g., heart rate monitor, cameras, shake to shuffle). Also, the Internet of things will bring forth a host of new devices – from smartwatches to digital wallpapers – that will support the implementation of new learning ideas.

So how does this apply to your new learning agenda? Reexamine how you use mobile devices. Join the innovators if you haven't already. Make abundant use of these exciting web-based services yourself. Give small teams – particularly those made up of young digital natives – the freedom to conduct experiments and pilot projects. Encourage them to reflect on their experiences and keep this issue on the radar of your stakeholders, especially if they are clients in functional departments or senior management.

New Target Groups

Learning and learning processes have never been restricted to the HR and educational domains. Other functions such as sales or marketing have always been interested in ways to inform and empower customers, suppliers, or market partners.

Customer-focused learning – i.e., training programs that target customers and rely on interactive, multimedia learning software or a large catalog of webinars to educate

buyers on the proper use and maintenance of products – is an integral part of the standard customer loyalty toolkit at many companies.

HR and education professionals can position themselves as business partners and consultants for this entirely new discipline in learning and development. At a minimum, they can contribute to the development and support of training programs as mentors and process facilitators in order to identify synergies and establish feasible quality standards.

So how does this apply to your new learning agenda? Once you have learned to see beyond the still-dominant course-centric view, you will spot opportunities to use your skill set that are attractive for reasons other than the allocated budgets. To have an impact, you will have to retain intellectual leadership regarding the conceptually and technologically innovative possibilities opened up by new learning.

Other Trends that Will Shape the Debate in the Near Future

New issues join the debate every day, partly due to technological change and partly due to their ties to other issues. The following section will highlight four additional aspects to complete our review of new learning and provide further inspiration to readers from the L&D field.

First and foremost is "learning analytics." It is a logical consequence of technological progress but has radical educational implications as well. These implications have little to do with individualized tracking, which has very little chance of establishing itself, especially in continental Europe. Rather, data analysis can help identify points where learners abandon the learning process or appear particularly motivated and potentially correlate these points with certain performance characteristics. These insights can be extremely valuable for improving training programs.

The second aspect is the "learning leader." Managers have traditionally initiated change processes. Now, though, they are also increasingly being perceived as the designers, developers, and supporters of learning processes. This change has been spearheaded by a new generation of leaders but is also driven by access to simpler tools. Proper use of these tools and thus their effective application in day-to-day management is presented as a new leadership skill in Roland Deiser's article "Six social-media skills every leader needs" (2013).

Another fundamental change in learning comes from the shift from "push" to "pull" learning. As mentioned in our description of the transition from formal to informal learning processes, learners will no longer be assigned material to learn (push), but will rather seek it out themselves and integrate it into their personal learning environment (pull). This shift is driven in part by changing employee expectations, particularly among high potentials who demand programs that support their development and effectiveness.

Finally, education professionals may in the future experience additional changes to the elements and substance of learning processes. Instead of jumping on overly hyped bandwagons such as gamification, HR managers should look at new approaches to collecting and curating various knowledge and process nuggets – approaches that may be fueled by new interface standards such as the Tin Can API (Experience API or xAPI).

Conclusion

New learning programs can be applied in a space whose dimensions have and will continue to change in response to the shifts in the underlying aspects described above.

For new learning to succeed, it must be fully integrated in the surrounding context. This also means integrating:

- Work associates. New learning programs should provide ways to include managers or coworkers in the learning process. For example, an assignment in a Blended Learning 2.0 environment may require students to collect information from their work associates. This sets the stage for a far more effective transfer of knowledge from the classroom to the workplace, sensitizes managers and coworkers to the current training process, and lays the groundwork for informal learning.
- Other people or organizational development initiatives. New learning programs should address or reference current people or organizational development initiatives. Is a change process under way in an organizational unit? If so, one assignment in the learning process can be: "How has the change affected the issue we are studying?" Are the results in from a recent leadership feedback survey? If so, they should dictate the practice scenarios used in class by selecting examples that embody those leadership skills that received less than optimal scores overall. Additionally, the results can be used to set up a personal learning portfolio. The programs thus build on each other in order to form a cohesive, coherent vision for participating students, teams, and departments.

Why has this level of integration not been achieved? The most likely explanation is a lack of involvement by stakeholders who have enough experience with the issues and methods to serve as guides. These people must come from within the company since this task cannot be fully outsourced. In addition, there is often a general unwillingness to take on the responsibility for orchestration.

Much can be accomplished by simply getting to know the toolkit better. For that reason, the next section provides a brief, structured overview of proven tools.

New Learning Tools: An Overview

The catalog of tools and functions that support new learning is very wide and has been broadened further by the inclusion of Web 2.0 technologies. It can be hard to make sense of all the options, especially for beginners unfamiliar with the tools and terminology. To make matters even more confusing, there are no generally accepted definitions of the terms or clean boundaries between them.

This section provides a hands-on overview of the various tools and what they can do. It also contains quality criteria on the use and design of each tool.

Fig. 4 Example for a web-based training

Web-Based Training

Abbr. WBT, also: online training, online tutorial, and e-training (Fig. 4)

Ideal for beginners, self-study, content that rarely changes, and recurrent training

Brief Description

- Tutorials are accessed and completed over the intranet or Internet.
- Material is prepared by an instructor or subject matter expert and then converted to a multimedia format, usually with an authoring software.
- Pages contain text, charts, pictures, videos, screen recordings, voice-overs, interactive animations, exercises or questions, attached documents, or reference links.

Applications

- Information and knowledge transfer
- Software training courses
- Certification (e.g., compliance, occupational safety, and health)
- Self-study
- Especially for frequently recurring material or material for large classes

Quality Criteria

- Interactivity to stimulate students
- Design, content, and aids devised to support the application of material
- Elegant implementation that permits localization and new compliations of content
- Compatibility with common standards

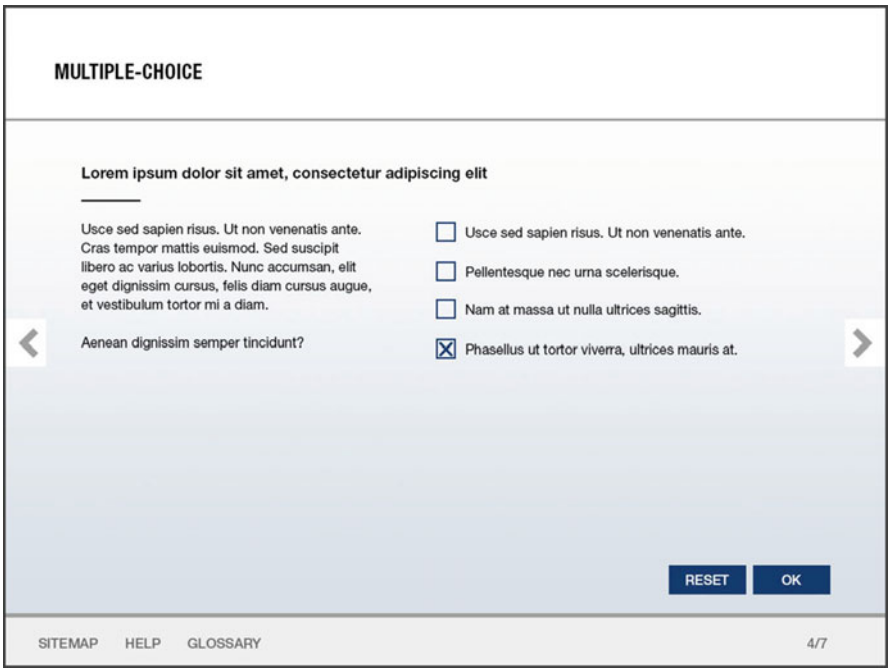


Fig. 5 Example for an online test

Trends

- Small learning nuggets
- Mobile
- Integration with social media
- Video
- Gamification

Online Test

Also: test, quiz, and assessment (Fig. 5)

Ideal for beginners, verifying training effectiveness, and placing students

Brief Description

- Set of questions to be answered by students for testing purposes.
- Created using an authoring software, which usually comes with a fixed set of question types and which can be complemented with some technical skill.
- Student receives feedback immediately after answering a question or at the end of the test.
- Cumulative score and pass/fail grade.

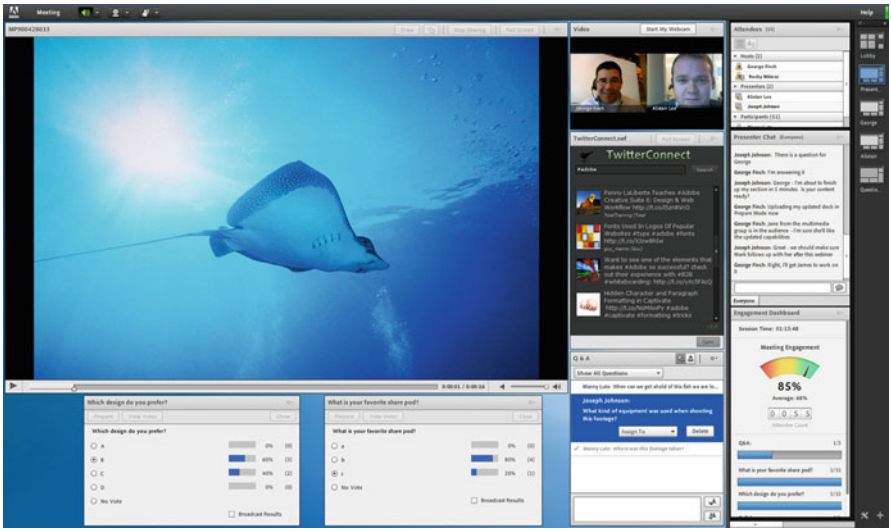


Fig. 6 Example view for a virtual classroom

Applications

- Assessment: advance evaluation of skills or knowledge, e.g., to provide recommendations for subsequent stages in the learning process
- Online tests: follow-up achievement tests to verify students' retention of covered material

Quality Criteria

- Assignment variability and conformity with learning objectives
- Flexibility of assessment and feedback
- Appropriate complexity: randomization of answers and questions, question pools

Trends

- Mobile
- Gamification

Integration of multimedia content and new assignment types

Virtual Classroom

Abbr. VC, also: webinar, e-seminar, web conference, and web meeting (Fig. 6)

Ideal for beginners, group learning, ad hoc learning, and synchronous learning within a blended learning process

Brief Description

- Virtual interface (meeting room) where participants meet and collaborate synchronously

- Audio and video functionality (with computer telephony integration or integrated telephone conference capabilities)
- Presentation (such as screen sharing, presentation) and collaboration (such as whiteboard, chat, voting) tools
- Instructor moderated and instructor controlled

Applications

- Work meetings in the learning process (e.g., kickoff meeting)
- Knowledge and information transfer (max. 90 min)
- Support for applying knowledge
- Individual consultation with coach or instructor (e.g., homework feedback)
  Small group meetings for Learning 2.0 assignments

Quality Criteria

- Easy introduction for participants; requires no installation or technical knowledge
- Many different ways to interact
- Design variety (different media and views)
- Recording function (with post-editing and export options)

Trends

- Mobile participation
- From webinar to web workshop
- Effective for formal scenarios but even better at vitalizing informal learning
- Technically integrated service instead of a separate event in a parallel system

Web 2.0 Tools: Wiki, Blog, Discussion Forum, Profiles, and Community

Ideal for advanced learners, group learning, and social learning in a blended learning process (Fig. 7.)

Brief Description

- Different tools with different modes of operation
- Student-generated content (posts, questions, uploaded pictures, videos, links to Internet content or websites)
- Feedback from other students through ratings, comments, or answers

Applications

- Sharing in a group or with the instructor/moderator.
- Completion of social learning tasks.
- Blog: learning diary to reflect on own progress.
- Wiki: create a technical glossary or process description.

Profiles: learn more about other group members and their skills – can also be used for networking outside the learning process.

Fig. 7 Example for a Web 2.0 task (WebQuest)

Quality Criteria

- Ease of use
- Smooth integration with the curriculum (tasks in the process)
- Adequate problem sets that actually rely on social learning
- Evaluation and control tools and mechanisms for moderators and tutors

Trends

- Open the tools in the formal learning process to team members, managers, and graduates who are not attending the class.
- Transition to learning communities beyond formal learning processes.
- Use analytics based on automatisms.

Learning Management System to Control the Learning Process

Abbr. LMS, also: learning platform and training platform (Fig. 8)

Ideal for blended learning processes and controlling learning processes

Brief Description

- Password-protected platform with student accounts
- Students can access class material and learning processes
- Combines blended learning modules into a curriculum supported by process control
- Automatic e-mail notifications
- Tracks student progress and results of web-based trainings, online tests and other training elements
- Reports on progress and test results for administrators and authorized functional departments

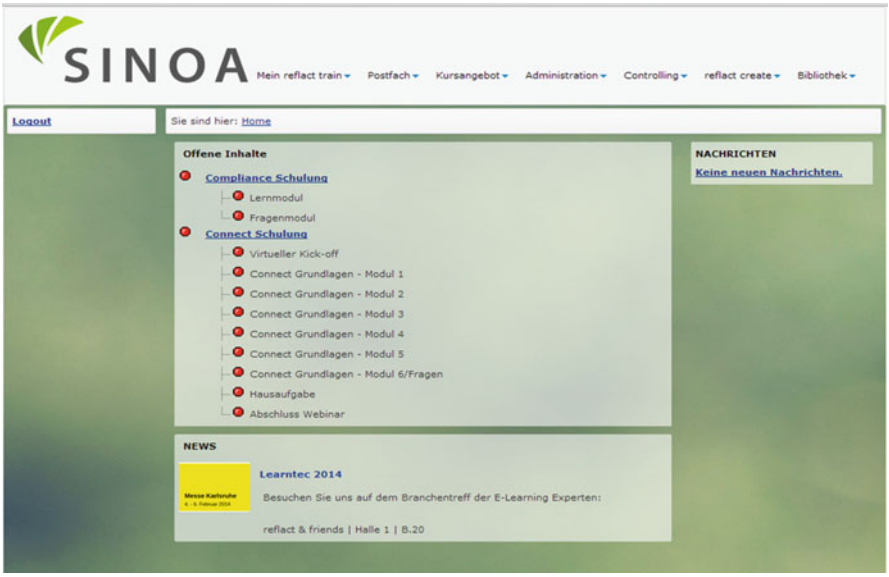


Fig. 8 Example view of a personal learning account in a learning management system

Applications

- Provision of blended learning processes
- Single point of access to all learning tools and material
- Controlling student progress and test results (e.g., as part of certification processes including documentation)

Quality Criteria

- Motivating student experience
- Ability to design complex learning processes including conditions and notifications
- Correct structuring, timing, and staging of individual modules in the processes
- Flexible role and permission model
- Personalized learning portfolio
- Student guidance system to steer students through complex learning processes

Trends

- Mobile access and offline learning
- Learning analytics
- Evolution of LMS into suites consisting of real-time and Learning 2.0 components

New Classroom

Ideal for blended learning processes and advanced users

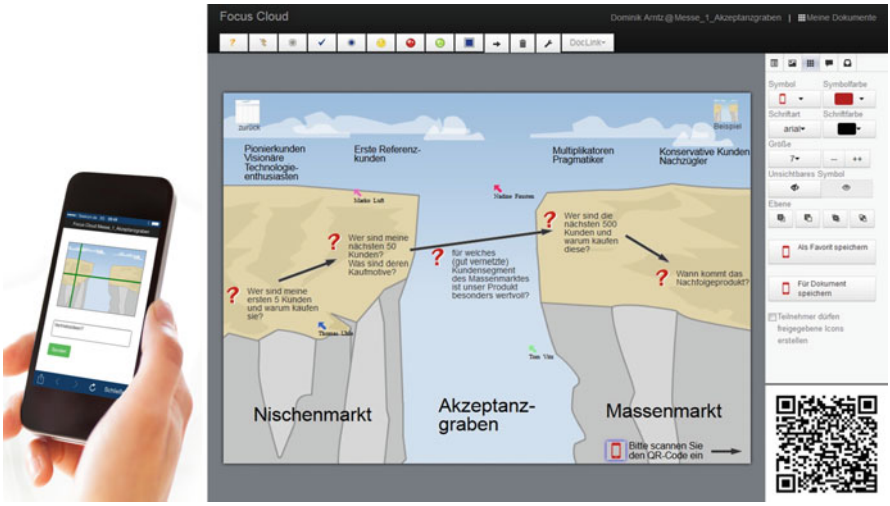


Fig. 9 Example for a digital moderation including smartphone usage

Brief Description

- Instructor-led activities such as classes or workshops that use new media.
- Refer to material from the learning platform during the activity, e.g., discuss group findings.
- Use the learning platform to complete and document certain tasks during the instructor-led phase, e.g., document personal application goals in the platform or the student's learning diary.

Applications

Combines instructor-led and online phases into a blended learning process

Quality Criteria

- Highlight in an integrated learning process
- No longer offline but linked with online activities
- Use of tablets or smartphones

Trends

- Expert on demand
- Hybrid event
- Digitally supported moderation (Fig. 9)

Conclusion

One thing is clear: This is a large range of tools that may overwhelm a beginner. Merely choosing a particular tool does not make an effective learning process, however. The tool must fit the learning objective. Lest detractors say that "A fool

with a tool is still a fool", the next section draws the reader's attention to ideas and approaches for developing compelling new learning programs.

How New Learning Programs Come About

After this look at the dimensions that describe new learning and the tools that can be applied in it, this third section explains how to design and implement compelling new learning programs.

All the examples in this section are based on the state of the art in designing formal training programs: Blended Learning 2.0. This kind of multistage blended learning process will use not only web-based and instructor-led classes but Web 2.0 elements as well. Obviously, the following conceptual design process can also be used for less complex learning programs. The basic principles transfer readily to informal learning, too.

The framework shown in the chart below summarizes how to develop and launch a new learning program.

Development Framework for New Learning Programs

Before taking a closer look at the core development process, the key elements of the framework (Fig. 10) will be introduced.

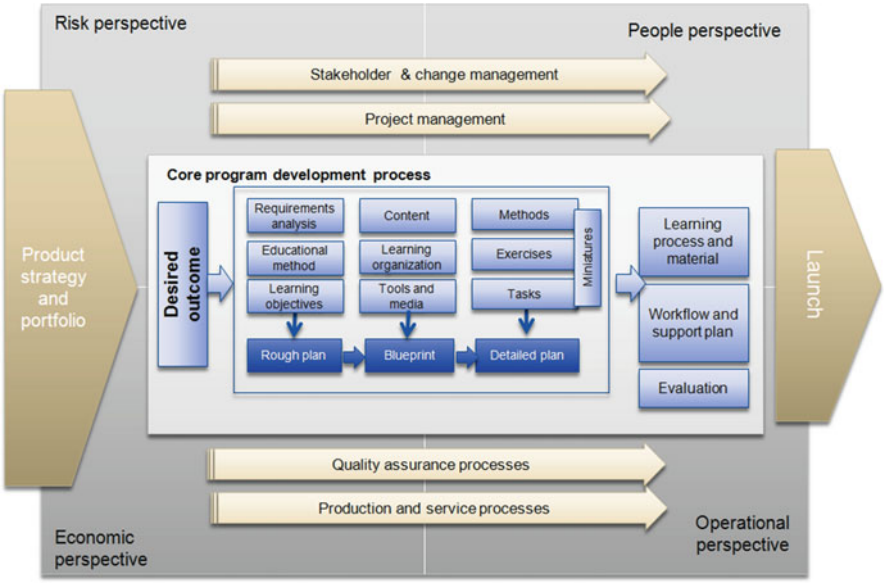


Fig. 10 Framework

- **Product strategy and portfolio**
  The development of a new learning program – which, in our example, is a Blended Learning 2.0 project – begins by positioning it within the overall strategy and educational product portfolio. The development team will have a significant head start if they know:
  - What learning and development programs are required by the organization
  - What possibilities are afforded by modern training approaches

  These two aspects inform the development of suitable training products for the organization.
- **Input: desired outcome**
  For the actual program development, it is important to define the desired outcome of the training program early on (e.g., improvement of "recognition of performance/appreciation" scores in an employee survey as the desired outcome of a manager development program).

  The desired outcome strengthens the performance focus of the learning program, provides a foundation for the remaining program development process, and serves as a starting point for future evaluations.
- **Core program development process**
  The new learning program is developed in order to achieve the desired outcome. The blueprint is the core module – the workflow of the blended learning process. It provides a foundation for developing the detailed plan, which in turn serves as a framework for individual learning modules.

  The following section discusses the steps: from the desired outcome to the blueprint to the detailed plan.
- **Learning process and material, workflow and support plan, and evaluation**
  Program development produces the following elements:
  - Learning process and material: implemented in the form of documents, tutorials, and task descriptions in Web 2.0 tools and implemented on a learning platform that not only controls the blended learning process but also enables it with supportive functions
  - Workflow and support plan: guide for tutors and instructors with instructions on completing lesson modules, including what to communicate and when, as well as tips on supporting students throughout the learning process

  Evaluation: questionnaires and other testing tools to verify students' retention and application of the material and to achieve the desired outcome.
- **Launch**
  The new training product can be launched as soon as the learning process and its constituent modules are implemented. If the training program is not mandatory, the launch should be supported by marketing and communication campaigns that target students, their managers, and potential participants.
- **Economic perspective, people and organizational development perspective, risk perspective, and operational perspective**
  The development of a new learning program is generally embedded in a larger context that can be viewed from various perspectives:
  - Economic perspective

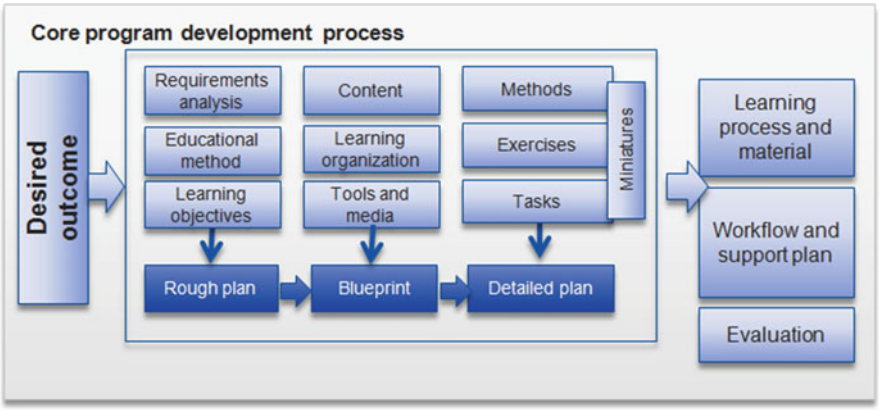


Fig. 11 Core program development process

- People and organizational development perspective
- Risk perspective
- Operational perspective

The fourth section takes a closer look at these perspectives, the resulting consequences, and recommended actions.

Detailed Look: Development of a New Learning Program

This section describes the development of a new learning program. It defines the ideal approach for a development process and makes certain recommendations.

As Figure 11 shows, the development process comprises three phases with three deliverables.

In the first phase, the team carefully analyzes the general conditions and develops a basic outline of the educational methods and learning objectives. These two aspects form a rough plan that guides the rest of the development process. The individual steps are described in more detail below.

In the second phase, the content is organized into a specific sequence in the learning process using learning objectives and available material. The sequence is combined with considerations regarding learning organization, tools, and media in order to make the first workflow map, also known as a blueprint.

In the final phase, the blueprint is used to develop suitable methods, assignments, and tasks in detail. This process produces a detailed plan, which provides a framework for developing the course content and mapping the blended learning process.

The next several sections describe the individual steps in detail.

Requirements Analysis

First, the program developer systematically captures and evaluates the requirements for the new learning program. Many requirements are often apparent from the product strategy or desired outcome.

A requirements analysis typically includes the following definitions:

- Target group (media literacy, relevant prior knowledge, language(s), etc.)
- Time frame and course duration
- Basic organizational conditions (e.g., tying the learning program into other people or organizational development initiatives)
- Available resources (e.g., tutors)
- Preexisting materials (e.g., from previous classes) that can be used later on in the development process
- Extent of the evaluation, i.e., at which levels should training effectiveness be evaluated (e.g., based on Kirkpatrick's categories of reaction, learning, behavior, and results) (Kirkpatrick 2012)
- Other contextual conditions

It is fairly easy to produce requirements analysis templates or checklists that work in all development processes. While they can make a requirements analysis a very brief affair, they do not make it unnecessary. Moreover, the discussions between program development stakeholders (e.g., HR, instructor, functional department) often identify issues that need to be clarified and discussed at this early stage. Otherwise, the underlying assumptions of the project may prove to be incorrect later on, resulting in an even greater need for debate, discussion, and change.

Educational Method

Apart from the general requirements, this first phase should also establish the educational model underlying the learning process. A detailed description of the various educational models used in web-based learning would go beyond the scope of this section. However, two basic trends can be distinguished:

- Instructional design models. These models are based on behavioral or cognitive learning theories. Learners cover the material according to a predefined plan with detailed learning objectives and clear work instructions. The models rely more on mechanistic educational paradigms but can be implemented easily and effectively.
- Contextual design models. These models are rooted in constructivist (learning) theories and therefore tend to pursue a strategy of empowerment. They provide programs where learners can experience the material in a self-organized, unstructured manner and construct the knowledge or skills themselves. In these approaches, material is not presented in a fixed structure, but can be accessed in different ways. Experience has shown that learners must possess some self-organization and self-study skills in order to be successful in this paradigm.

Complex new learning programs that use Web 2.0 tools and are designed as blended learning processes tend to follow contextual design models while still integrating "conventional" instructional design. As such, these trends should be viewed as being complementary, not mutually exclusive.

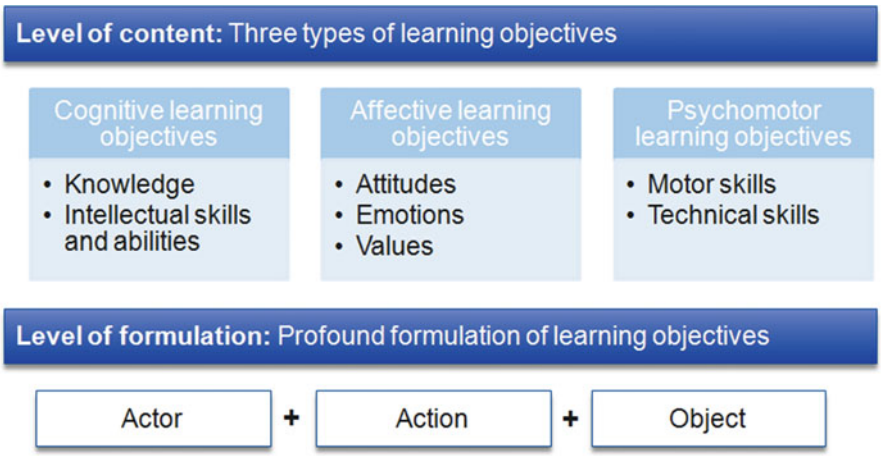


Fig. 12 Design recommendations for learning objectives

Learning Objectives

Next, the learning objectives have to be formulated. This is a crucial step for the rest of the development process and should be performed with due care. Program developers can obtain concrete and – in some cases – detailed recommendations on developing learning objectives from various models and support tools, including Bloom's Taxonomy of Educational Objectives (1956) and other models based on it.

The next section describes the two most important tips for formulating learning objectives (Fig. 12):

First, experience has shown that it helps to define specific learning objectives for each learning domain:

- Cognitive learning objectives: acquisition of knowledge or intellectual skills and abilities
  Example: The learner knows the feedback rules.
- Affective learning objectives: learning certain attitudes, emotions, and values
  Example: Learners have a positive attitude toward feedback meetings with their employees.
- Psychomotor learning objectives: acquisition of new technical or motor skills
  Example: Learners use appropriate body language during the conversation.

The advantage of these domains is that they include attitudes (through the affective learning objectives) instead of being restricted to knowledge and actions.

These learning domains can be used as a starting point in developing the learning objectives. Ideally, program developers will formulate no fewer than 3 and no more than 5 learning objectives per domain. For large training programs this can be a

Table 1 Examples for learning objectives

Actor	Action	Object
The learner	Applies	The feedback rules
The learner	Conducts	Employee critiques constructively but honestly
The learner	Adapts	His or her communication style to the situation

challenge. However, experience has shown that catalogs of more than 15 learning objectives are often too unwieldy to manage in the course of the conceptual design process.

Second, learning objectives should always be formulated in terms of the actor, action, and object. Learning objectives for a communication class for managers could, for example, be expressed as follows (see Table 1).

It may take practice to learn how to design effective learning objectives, but they are essential for the rest of the development process and can be applied in any other form of educational or development program.

Rough Plan

The rough plan is much like an initial project sketch. It summarizes the key points and framework conditions in a requirements analysis and preliminary educational considerations and presents the essence of the program in the form of learning objectives.

The rough plan should be discussed and agreed with everyone involved in developing the new learning program. As with any construction project, any modifications made to the rough plan at a later phase of the project will require extensive changes to the entire structure.

Content

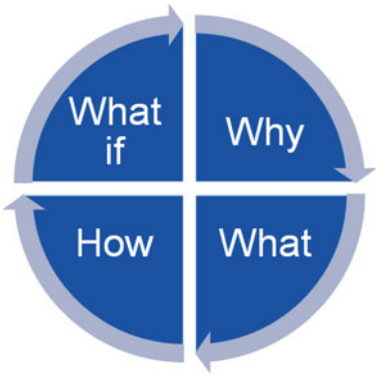
The next phase begins by specifying the course content, learning organization, and tools and media. First, existing materials are compiled, reviewed, and assessed for their relevance to the course content. The learning objectives can be used to organize the content into an initial structure. They form the overall framework. The 4MAT method has proven extremely helpful in structuring and classifying content.

The original 4MAT method, very well known especially in the United States and United Kingdom, assumes that learners can be classified into four different categories. Content should be presented to each category from a different perspective. These perspectives – which have parallels in other educational models – provide a good framework for compiling content.

Figure 13 summarizes the 4MAT perspectives:

The perspectives may have to be adapted to various sub-aspects if the new learning program covers a lot of content.

One practical approach to the 4MAT method involves collecting content keywords for each perspective and, where necessary, supplementing them with references to relevant materials or existing implementation ideas.



Perspective	Content
Why	Why is the course content important to the target group? (Relevance of topic) → Primarily addresses affective learning objectives
What	What exactly is the topic about? →Primarily addresses cognitive learning objectives
How	How can learners apply what they have learned? →Primarily addresses psychomotor learning objectives
What if	What if learners apply the lessons exactly how they were learned? →Primarily addresses affective learning objectives

Fig. 13 Summary of the 4MAT method

A practical question: "Does the challenge of offering content mean that we need to constantly develop new web-based training courses? What are the other types of content?"

Course content can be integrated into the learning process even if it is not a web-based training course produced by an external or in-house team. Educational professionals can adopt the same approach as a "curated" website that integrates content from other platforms, links to other websites, and even comments on the integrated information. The content can be sourced internally or externally.

Typical internal sources for good content:

- Training materials (self-study modules, training videos, presentations and materials for instructor-led classes, handouts)
- Existing process descriptions, manuals, checklists, etc.
- Presentations or other content from functional departments
- Marketing materials, e.g., videos

Typical external sources for good content:

- Trade journals and communities of practice
- Video platforms
- Industry blogs

Copyright laws must be respected when integrating external content.

This open approach to content offers two advantages. First, actively searching for materials often uncovers previously hidden treasures. Second, it makes it much

easier to carry out the learning process in the future since it eliminates the time-consuming step of content preparation. This greatly accelerates the time to market of your training program.

Learning Organization

While structuring the course content, the program developer also has to select a learning organization for presenting the content. The learning organization is the setting in which learning takes place. Learning organizations can be defined along different dimensions, but blended learning processes generally use two dimensions (see also Kerres 2013):

- When and how long – the time dimension: timing of the learning process, duration of the individual phases, synchronous versus asynchronous, etc.
- How – the social dimension: individual, teams of two, small group (shared goal or assignment), and learning community

Tools and Media

Next, the program developer starts collecting ideas for tools and media (e.g., video, documents, web-based training). Section "What is New Learning" presents the main tools used to design blended learning processes.

Blueprint

The content, learning organization, tools, and methods are used to develop a "blueprint" – the basic workflow for the learning process. The blueprint essentially embeds the compiled, structured content within a process that uses various tools and methods. The steps, tools, and methods should be chosen based on their ability to support each learning objective.

Program developers may wish to use the chart shown below as a guide when creating the initial process outline. It relates typical phases of the learning process to the various objectives, perspectives, and implementations.

As shown in Table 2, some tools or task archetypes generally work better than others in certain phases but will nonetheless have to be checked for relevance when developing each specific blueprint. Learning phases may also repeat several times in more complex training programs such as a management development course that lasts several months.

One proven moderation method used in blueprint development utilizes a standardized template to organize the course content.

It is based on a time line with two different levels:

- Synchronous elements
- Asynchronous elements
  - Individual
  - Social

Table 2 Objectives, perspectives, and typical implementations for each phase

	Start	Acquisition	Discussion and reinforcement	Transfer to workplace
Objective	Motivation Orientation	Knowledge acquisition in self-study Or Problem orientation: individual or group work on the material	Exercise Application to other contexts Reflection "What if"	Application Answering questions Sharing experience
Main perspective 4MAT	Why	What and how	How and what if	What if
Typical implementation	Virtual kickoff in the virtual classroom	Web-based training Self-study module Social learning task, e.g., on a blog	Instructor-led seminar or workshop Virtual classroom	Virtual classroom Learning diary within a blog

Texts or icons representing the various modules in the learning process are positioned on this background. The first run-through of a blueprint design process can, for example, produce the following learning process (Fig. 14):

This moderation and conceptual design method works well because it consistently generates an abstract, discussable, and understandable view of the entire learning process. It quickly reveals dependencies and imbalances, e.g., between synchronous and asynchronous phases.

The method lends itself to suitably prepared pinboards, to standard software such as Microsoft PowerPoint, or to special moderation software such as "let's focus."

When the blueprint is finished, the program developer will have a workflow that connects course content to tools and learning organization types on a time line. It generally does not yet contain tasks, transitions, or deliverables.

From Blueprint to Detailed Plan

The blueprint is converted to a detailed plan by fleshing out the methods, exercises, and tasks in the individual stages of the learning process. In the process, the program developer answers the following questions based on the conditions laid out in the blueprint (e.g., synchronous stage):

- What method should be used? Methods vary with the tools, just as in instructor-led classes. In the classroom, flip charts can be used for presenting a topic or brainstorming. Likewise, virtual classroom chats can be used to collect ideas or to allow each student to give one or two sentences of feedback.
- What tasks and exercises do the learners have to complete? The blueprint may, for example, call for content to be generated and/or shared by a group in a discussion forum. The detailed plan will define the exact assignment.

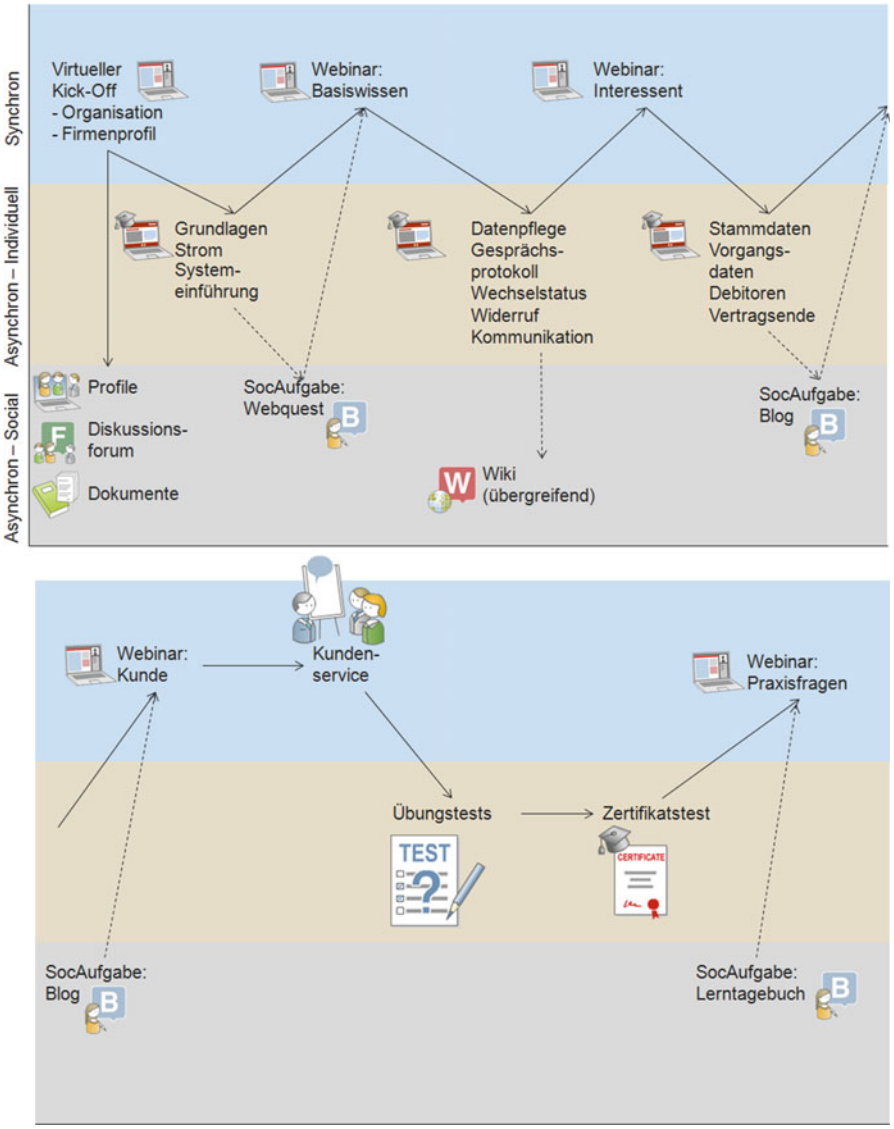


Fig. 14 View of a blueprint

These levels and the blueprint model can be supplemented by another concept: miniatures. Miniatures are self-contained, archetypical series of tasks in the detailed plan that help students achieve a specific learning objective.

They combine a task with a content and one or more tools. All kinds of tasks can be chosen, but this section focuses on social learning tasks since they generally pose the greatest development challenges:

Miniatures lend themselves to a basic principle of cooperative learning known as the "Think-Pair-Share" method. It consists of three phases:

1. Think: Learners are given a task that they must complete by themselves. For example, they may have to read a text or write down their observations. At the end of this (timed) phase, the learners should be able to present their answers to another person.
2. Pair: Next, learners pair up and discuss the results of the first task with their partners. At the end of this second phase, both learners should be able to present their partner's answers to a group.
3. Share: The results are presented and debated in small groups or with the entire class.

This approach can be used with multistep miniatures. For example:

- WebQuest: In a WebQuest, students are sent on a "treasure hunt." They are tasked with compiling information, examples, or artifacts on a certain subject. The Think-Pair-Share method can be used to analyze the findings in more detail with another student and then to present and discuss them with the entire group.
- Film review with sequencing and perspective change: At the start, students are assigned different perspectives (e.g., employee, manager, executive) from which to view the film. Then, they answer concrete questions and share their answers with the entire class in a second or third step. Longer videos can be broken up into different sections, and the students can change perspectives as needed between sections.
- Learning diary: Unlike the first two miniatures, which are more suitable for introducing a new topic and starting a learning process, students keep learning diaries during the entire course until they enter the application phase at the end of the program. Diaries help students capture new insights and implementation ideas in many different ways. Time can even be set aside during class for students to update their diaries. The ideas, insights, and reflections in the students' diary entries support the application phase in a very special way: They are regularly sent to learners as text message or e-mail reminders. To enhance the coaching effect, it is possible to automatically integrate specific questions and include "counterparts" such as fellow students, instructors, or managers. Since these individuals can see, evaluate, and comment on the answers, reflections, and practical questions, the miniature not only helps the learners reflect on their knowledge but also enables managers, the supervisor or the trainer to actively support students in the application phase.

Miniatures can be integrated in the blueprint at suitable junctures.

As the development process continues, the program developer should review and update the blueprint with regard to certain aspects. Among other things, the review should focus on the three key success factors of change processes:

- Lower barriers: How can I lower entry barriers to the process by providing clear explanations or improving user friendliness?

- Boost attractiveness: How can I make participation more attractive by offering more value at various levels and increasing participant motivation?
- Gentle push: How can I subtly encourage attendance by providing advance information or exerting indirect peer pressure?

Using the above principles, program developers can look more closely at three issues that often harbor room for improvement:

- Staging: The entire learning process must be systematically staged with corresponding climaxes. While the staging can be based on the 4MAT method, it should not be overly analytical, but should follow storytelling or similar approaches instead. Staging is also important for individual modules such as a virtual classroom.
- Force fields: These should be double-checked and actively planned into the blueprint in order to keep students engaged in every phase. Essential force fields include the conclusion of upcoming tests and the defining moment when students first meet each other and their instructor face-to-face. Even work associates, if integrated intelligently, can provide energy and momentum for the learning process.
- Transitions: These are the interfaces between steps in the blueprint. They are critical junctures where students often struggle or fail to proceed. For that reason, it helps to specifically map out and integrate transitions in the course of the conceptual design process. For example, all the students can collect questions at the end of a web-based training module and present them in the next learning module, e.g., a virtual classroom.

This analysis can identify missing modules and suboptimal transitions in the blueprint. This is also a good point to create a support plan and work up initial concepts for individual learning modules (e.g., workflow and materials for the virtual classroom).

Next, the program developer begins to work on content and materials for the web-based training course, instructor-led seminar, or other programs. This process is more collection and curation than creation, though. In new learning, content is more like an intelligently composed news broadcast than an elaborately produced movie. Continuity must be maintained, but different contents from within the organization should be deliberately and actively included.

A practical question: "What should you do if you want to create web-based training courses and online tests in-house?"

First, choose the right authoring tool. Some tools, including several with a global footprint, offer ready-made templates for exercises and interactions in order to greatly simplify content creation. Other tools integrate preexisting materials such as Microsoft PowerPoint slides and supplement them with interactive elements. Most modern-day tools have a very short learning curve and can be easily used by authors and subject matter experts.

Be careful: You may be distracted by the interactivity features and lose sight of your primary goal of optimally achieving the learning objectives, especially if you are new to authoring tools. To ensure content quality and training effectiveness, make sure to select exercises that support the learning objective. It pays to invest in continuous skill building, optimization, and good experience. In the best-case scenario, you will acquire a canon of templates – perhaps initially with extensive outside training and support and later only asking for help with special questions – that will make it increasingly easy to work with course content.

Next, the program developer begins to work on content and materials for the web-based training course, instructor-led seminar, or other programs. This process is more collection and curation than creation, though. In Blended Learning 2.0, content is more like an intelligently composed news broadcast than an elaborately produced movie. Continuity must be maintained, but different content from within the organization should be deliberately and actively included.

This systematic development process ensures that learning objectives are achieved. However, it also drives the acquisition of media literacy, particularly when it comes to using 2.0 tools in a business context. It thus serves as an important bridge to the fascinating, hotly debated world of informal learning in organizations.

New Learning: Bridging the Gap from Formal Training Programs to Informal Learning

The above remarks on the development of Blended Learning 2.0 programs refer to formal education programs and how to integrate more open, informal learning elements into them.

Blended Learning 2.0 processes embody many characteristics of informal learning: a powerful social experience, a more open learning process, and openness to students' work associates. All these factors, together with other properties of a well-designed Blended Learning 2.0 program, can have many positive implications for informal learning beyond the official training catalog.

For example, the organization is prepared for the significance of informal learning in day-to-day operations, and not just in formal training programs.

This process depends heavily on the experience that education professionals accumulate over time. In short, well-designed Blended Learning 2.0 processes are inherently conducive to interesting informal learning applications. Furthermore, they offer an excellent opportunity for the HR department to help build Enterprise 2.0 capabilities.

Outside the Box: A Look at High Schools and Universities

To wrap up this section and provide further inspiration, it helps to discuss two exciting approaches used at high schools and universities. They show how new

technologies can literally turn traditional training approaches upside down. At the same time, they raise interesting issues of relevance to corporate new learning programs.

A Look at High Schools: Flipped Classroom

A "flipped classroom" (also *flip teaching* or *inverted teaching*) is a term used in high school education. It describes an integrated learning method that "flips" the instruction and homework phases: Students learn the material at home and then apply and practice what they have learned in the classroom. Flipped classrooms often use digital course material or cover the material in a virtual classroom.

The core idea is this: Exercising and applying newly acquired knowledge in a classroom setting makes better use of the benefits of social learning – that is, model learning and feedback from others – than a mere knowledge transfer phase.

While this teaching method was only a trendy buzzword in the United States a few years ago, many European universities and schools are now experimenting with it. It is very similar to the traditional Blended Learning 1.0 process in which the self-study phase consists of instruction, while the instructor-led phase focuses on practicing the material through role-playing and case studies.

Conclusion: While it may be revolutionary for high school students to acquire knowledge asynchronously and apply it synchronously, it is not rare in blended learning scenarios. Indeed, it is far less radical than another trend that has attracted enormous attention and sparked considerable debate, especially at universities: massive open online courses. In these courses, not only is the material taught online, but learners also work on the content online, often together with other learners.

A Look at Universities: MOOCs

Massive open online courses (MOOCs) provide even more inspiration on how new technologies can give rise to new educational products. There may be many different types of MOOCs, but all of them combine more or less traditional teaching methods based on videos, readings, and problems that are discussed and examined in a community comprising learners and teachers, e.g., in discussion forums. Since MOOCs address basically everyone interested in a university education, they open up previously inaccessible programs, including those at Ivy League schools, to people worldwide. Ivy League knowledge is now available to everyone – a very radical concept indeed. The large number of learners could not have been supported effectively without web-based tools. Despite significant dropout rates – which are deliberately factored into the equation – the MOOC approach has been a resounding global success.

The MOOC approach has long been accepted outside the university world. It is thus no surprise that many organizations are already trying to use MOOCs for their training programs. The idea certainly has merit as long as organizations do not attempt to hastily and unproductively integrate university MOOCs as is.

For example, companies could launch in-house MOOCs on internal topics. Since virtually everyone now has the tools to introduce content to the process – from simple comments to a brief video statement or screen recording – this approach harbors plenty of potential for managing skills and knowledge.

Conclusion: MOOCs show how technology can be used to design location-independent learning programs that still contain synchronous and social learning experiences. Even if MOOCs experience high dropout rates due to their initially most attractive feature – openness – the underlying idea still provides many valuable insights and will continue to inform the evolution of corporate training.

Leveraging the Opportunities of New Learning: Four Management Perspectives

It is easier to leverage the benefits of new learning and effectively manage the desirable and less desirable consequences if you distinguish between four dimensions:

- People perspective: effects on motivation, emotion, and culture
- Economic perspective: value drivers and costs
- Operative perspective: administrative consequences
- Risk perspective: risks, potential obstacles, and possible countermeasures

These four perspectives mark the boundaries of the framework presented in section "How New Learning Programs Come About" (Fig. 15).

In addition, this section ends with a short but comprehensive list of dos and don'ts for a successful start with new learning.

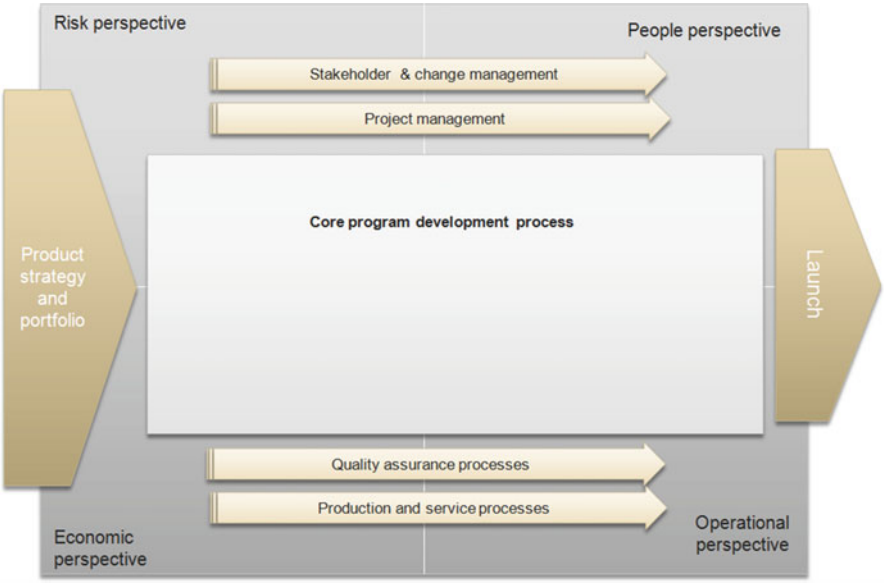


Fig. 15 The four perspectives in the framework

People Perspective

There are two sides to this perspective. First, training programs based on the new methodological model have to be launched in a way that is appropriate for the organization's culture. Second, the use of new learning methods can support strategically necessary organizational changes. Both dimensions are analyzed below.

The introduction of new learning programs is a major change project that, like any transformation initiative, requires appropriate support. The initial learning methods must line up with the company's current learning culture and capabilities. Program developers commonly ask, "Is it better to start out with first-generation web tools (Blended Learning 1.0) or can I begin with a more advanced approach right away?" The answer is simple: Organizations with an open communication culture and appropriate experience may be able to start with Blended Learning 2.0 processes. Thanks to its fixed elements, the course framework provides enough structure and guidance to support social, self-organized informal learning. Without this kind of learning culture and experience, however, it is less promising to, say, invest in a social intranet and expect self-organized informal learning to blossom. Once a particular learning method has been chosen, its development and launch has to be carefully and continuously supported, preferably with the early involvement of key stakeholders such as managers, employee representatives, or instructors. The support communication should always highlight benefits, identify parallels and intersections with other processes and tools, and address and convincingly dispel concerns.

Switching to the new methodological model opens up entirely new opportunities for the organization.

Varied, attractively staged, high-impact training processes motivate students, instructors, support staff, and managers alike.

As self-organized learning processes begin to crystallize in the organization, they also drive the development of skills needed for informal learning in work processes. Employees start to develop their own strategies for structuring knowledge or using Web 2.0 tools to generate and discuss new knowledge. In short, they learn how to learn. These successful activities support the transformation of the learning and information culture and propel the enterprise toward the learning organization paradigm.

Learning thus becomes an increasingly important part of major change processes. Once an organization has developed the ability to use educational and Web 2.0 tools effectively, it can apply this ability to organizational development processes as well. Change Management 2.0 has proven to be a much sought-after but strangely elusive goal. However, this approach may be used to support future change programs in synchronous web workshops or through asynchronous discussions and assignments in blogs, wikis, or video tutorials.

Economic Perspective

New learning projects offer a rapid ROI because, as described above, they benefit the entire enterprise and can unleash considerable untapped efficiency reserves.

Costs are hard to evaluate, however, since the learning technology market remains highly opaque without standard prices. Newcomers can be misled by allegedly low start-up costs – e.g., for license-free open-source learning platforms – only to be stunned at the high adaptation and implementation costs.

The internal costs can be considerable, too. All project phases require input and, at times, significant involvement from experts at various departments. In the implementation phase, students in a new learning program require constant support from instructors – not just in instructor-led classes, but in remote stages as well. Finally, companies that launch extensive new learning programs should consider establishing their own new learning team to handle design, management, support, and student communication for all their courses.

These not insignificant costs are offset by compelling value drivers:

- Long-lasting learning outcomes that benefit students and, in most cases, their organizations
- The opportunity for the HR department to help transform the entire company into an Enterprise 2.0 and learning organization based on new conceptual and technological tools in and outside official training programs
- Modern training programs that are proven to attract better employees, retain them longer, and enhance the employer brand

Operational Perspective

The key players have to tackle new operational tasks, establish new workflows, and make significant changes to current processes in every phase:

- Plan (development and design of the change process)
- Build (establishment of infrastructure and development of content – from conventional course content to social learning tasks)
- Run (ongoing student support and continuous refinement of the learning process)

As described above in the economic perspective, it may be beneficial to assign the normal administrative work to internal resources once the training programs reach a certain size.

Outside assistance is absolutely essential when performing some of these tasks for the first time, especially in the plan and build phases. Internal resources should handle all subsequent iterations and the actual execution, though.

Process manuals have proven to be indispensable in practice. A manual can be created by simply defining and documenting the processes associated with the first new learning program. It explicitly defines the various roles and tasks in development and describes and documents the steps involved in processes such as the creation of a new training program.

Risk Perspective

Developing and launching new learning programs entails risk, as indicated in previous sections. Newcomers may have dabbled in e-learning and possibly new learning but rejected them after some initial attempts. Even more individuals may have been disappointed by the outcomes.

Analyzing the core concepts in the preceding sections will already improve new learning initiatives' chances for success significantly. Nonetheless, the following table describes concrete countermeasures for the most important risks:

Exploding External Costs During Buildup

Possible Countermeasure:

- Roll out adoption in phases.
- Rent infrastructure via a software as a service model.
- Select service providers based on their attitude, capabilities, and strategic fit; always talk to reference clients.
- Devote attention to every phase of the project.
- Draft clearly worded contracts and manage them carefully.

Inadequate Support from Employee Representatives

Possible Countermeasure:

- Involve them early on.
- Clear up critical issues – e.g., who can see the test results and how far can they drill down – and codify them in the process manual.
- Make data privacy agreements with internal stakeholders and, if appropriate, external providers.

Poor Student Acceptance

Possible Countermeasure:

- Adapt the training programs to the organization's learning culture.
- Start with simple target groups.
- Conduct pilot projects to help identify obstacles to acceptance.
- Issue policies on learning times learning times, learning environment and access to learning results e.g. for the supervisor as needed.

Poor Instructor Support

Possible Countermeasure:

- You have to meet the requirements for intellectual leadership, e.g., understanding the possibilities, aligning yourself with senior management, possessing resources, and thinking through processes.

- Then, involve and empower instructors at the right point in time. Win them over with a clean SWOT analysis, an intelligent proposal for action, and a campaign to show and explain how the new approach feels.
- Identify unexpressed conflicts with instructors' interests in advance. Have answers to questions such as "What am I going to lose?" or "How much work will I have to do in order to set up the course initially and support my students over the long term?"

Too Much Effort Required to Design and Manage Courses

Possible Countermeasure:

- Think in terms of smart content (recycle, curate, pragmatically produce) instead of elaborate WBT projects.
- Develop a toolkit of ready-made templates and sample procedures as quickly as possible.
- Define good, self-sustaining tasks that require minimal instructor involvement.

Technical Issues During Implementation

Possible Countermeasure:

- Consult the IT department when selecting technologies.
- Perform sufficient test runs in pilot projects.
- Support process (user help desk and help pages).

Dos and Don'ts

In addition to the risks listed above, the following list of dos and don'ts will help HR and L&D professionals to get started.

Dos:

- Manage your stakeholders actively (see risks and countermeasures above).
- Start with a clear set of software tools, although these might not solve all upcoming questions in the future.
- Excite your learners with an inspiring learning experience.
- Gain experiences first, e.g., by renting software as a service, and then decide on long-term investments (e.g., buying a learning management system).

Don'ts:

- Do not try to decide on every question that might come up within the first years, instead of getting started.
- Do not confront your stakeholders, e.g., instructors and employee representatives, with final concepts or solutions.

- Do not ignore technical trends, e.g., mobile learning which implies major technical implications.
- Do not underestimate the resources in means of time and personnel needed to implement a successful new learning offering.
- Do not invest in a complete software solution without knowing which tools and processes fit your learning culture.

Final Comments and Outlook

This article aimed to explore the creative tension between dramatically changing expectations for organizational learning and the real-life need for a robust process.

Formal Blended Learning 2.0 programs serve as an important bridge in this regard. One of the article's main goals was to provide concrete guidance on what tools to select, how to design learning processes, and how to manage the change process associated with the implementation of new learning.

It is clear overall that HR and L&D professionals now have significantly greater freedom to create and innovate despite differences in the pace of change and in individual dimensions of new learning at their organizations.

References

Bloom BS (1956) Taxonomy of educational objectives. Longmans, New York

Deiser R, Newton S (2013) Six social-media skills of leaders. McKinsey Quarterly, New York

Kerres M (2013) Mediendidaktik: Konzeption und Entwicklung mediengestützter Lernangebote. Oldenbourg Wissenschaftsverlag, Berlin

Kirkpatrick DL (2012) Implementing the four levels: a practical guide for effective evaluation of training programs. McGraw-Hill, New York

Lombardo MM, Eichinger RW (1996) The career architect development planner. Lominger, Minneapolis