

COMPREHENSIVE ANALYSIS OF EXISTING LEARNING MANAGEMENT SYSTEMS (LMSs)

Name of institution: Fortbildung online

Type of institution: Landesinstitut Schleswig-Holstein für Praxis und Theorie der Schule (IPTS)

Address: Schreberweg 5, 24119 Kronshagen

Telephone: 0431 - 54030 Fax: 0431 - 5403200 Email: ipts@ipts.de

URL: www.ipts.de

Name of training manager:(Optional).....

LMS used: interwise - ecp (enterprise communication platform version 4)

URL of LMS: www.lernnetz-sh.de

Language of LMS: german

Number of years in use: nearly 2 years

Other LMSs used: none

Number of students in the system: about 1000 in the data bank

Number of courses available: about 350 (synchronous) courses
Typical duration: about 1 hour

Number of tutors in the system: about 130 trained

This analysis is divided into six parts.

1 Course development tools

2 Student support tools

3 Tutor support tools

4 Administration (student database and records)

5 Technology (quality of software)

6 Price

1 Course development tools

1.1 *Course creation.* How satisfactory was the LMS for course creation?

We only use synchronous forms. We do not use anything else on principle. Asynchronous courses for teachers are, in our opinion, pointless. We are aware that we are going a little against the grain. We do not hold much of the classic case of: smart professor, dumb students. We see rather that we have to talk to one another, in real life, and in real-time, too. Courses run by E-Mail are an anathema to us. We are very satisfied with the tools for synchronous work. We have to prepare for our synchronous courses too – the Americans call it lesson-plan, or agenda setting. To do this, we also need a

development tool – these are delivered along with everything else, and are compatible with the current Microsoft products.

The course preparation plays a very important role, but differs greatly, from the asynchronous systems like web-ct, blackboard etc. LMS is more of a kind of supplement. For example, "dozent", a real LMS, where I can administrate whole courses, and which has an option that allows me to to start interwise sittings with the participants. The LMS then sends all the relevant information to the development surround, and to the different kinds of interwise, and then I have my course set up. Another development is the lcms – a learning content management system.

- 1.2 *Structure and didactic flexibility - openness.* In the creation of course materials did the LMS permit didactic flexibility? Was the structure open to differing didactic possibilities?

Yes, in the synchronous area.

- 1.3 *Teacher userfriendliness.* How easy was the LMS to use by teachers and course developers?

They must be taught – the teachers and course developers have to have experience. We teach set-up and use either on the Net in three parts, or in two-day Presence events. (see also 6.5)

- 1.4 *Support for graphics, audio and video, moving image.* Did the LMS support the provision of graphical materials, moving images, audio and video in the course content?

Yes, everything.

- 1.5 *Questioning, assessment, assignments.* What provision was made by the LMS for student questioning and assessment and the design of student assignments?

This also exists in the synchronous area. We can send online tests, surveys etc, and on the tutoring side we can also export in current Microsoft forms. The options on offer are satisfactory, but we seldom use them.

2 Student support tools

- 2.1 *Interactivity possibilities.* What provision does the LMS make for student interaction?

Everything you can think of in the synchronous area – from, text news, application viewing, application sharing. "Over-the-student-shoulder" is a model, with interactive tool for display, drawing and framing, etc.

- 2.2 *Online student to student communication (synchronous and asynchronous).* What facilities does the LMS provide for student communication to other students and how successful is it? Is both synchronous and asynchronous communication between students supported?

In synchronous work: we can put them into group work scenarios, where they can communicate live audio, and text news can be exchanged. The

system gives priority to, for example, forming mailing lists and newsgroups within the courses. We do not, however, make use of this last option.

- 2.3 *Online student to tutor/institution communication (synchronous and asynchronous).* What facilities does the LMS provide for student communication to the tutor and to the institution's administration and how successful is it? Is both synchronous and asynchronous communication supported? Are these support services available 24 hours a day?

All the above-mentioned interactive elements – so both live audio and live video too.

- 2.4 *Resources, library, references.* What facilities does the LMS provide for student acquisition of resources required by the course, especially library resources and references to required readings?

It offers support in the form of current Microsoft software. The Powerpoint programme is often used for resource, and Powerpoint foils can be transferred complete in an interwise session. Additionally, all existing data formats. We do not have any links to libraries.

- 2.5 *Feedback on work and assignments.* What is the quality of provision of feedback to students on their work and assignments?

Good

3 Tutor Support tools

- 3.1 *Tracking students - database questions.* How user friendly is the LMS for tutors wishing to track their group(s) of students and retrieve data from the student database?

Of little interest from the student's point of view. The tutor can, however, log in to the system at any given time, and see how many students are registered on his course. He can also use the system to make important changes, i.e. to the course timetable, and immediately send on the information to all enrolled students. We could also use the system in administration, to keep track of how many students are actually present at each course, and the exact times at which they are present.

- 3.2 *Group management tools.* What facilities are provided by the LMS to the tutors for managing their group(s) of students?

We have to differentiate here – for synchronous things, I have to introduce an additional level. On the one hand I have tutors, and on the other, I have what the platform calls a "learning administrator". These administrators are the people who put a course together. There is a mix of three components – the first component: students, the second, the course leaders, and the third, the learning material for the course. A tutor does not usually set up a course – the learning administrator is the only one who is allowed to do that. The platform is extremely expensive, and if everyone had the right to run a live course with whomsoever they felt like, we would have a big problem. So the whole thing is really very strictly regulated. Exact role sharing is possible, so that one can say that this person is a student, a presenter, and a learning

administrator, and as such he can, if he wants, bring different communication forms and events to life. He even has the right to make some changes in the system itself. For us, group division is more of a matter of role division.

- 3.3 *Preparation of questions and assignments by tutor.* How successful is the LMS in providing tutors with user friendly and didactically successful tools for the design of student questions and assignments?

This is only satisfactory, but dependent on the fact that we only work on the synchronous level.

- 3.4 *Course planning for students (monitoring pace).* What tools are provided by the LMS to tutors to enable them to monitor and plan student progress?

Once again, from a synchronous point of view: for us, it is very important that I know that what I do at any given time really reaches all the people it should. Our server works with live streams, and when I do something like application viewing, i.e. I show an application, the I have to be sure that the bandwidth is enough to reach all the participants – that they all see it. The mechanisms for this are very good, and I always have control over, for example, whether the student has picked up on a foil change, and whether he or she is actually following everything.

- 3.5 *User-friendly administrative systems between tutor and institution.* What provision does the LMS make for successful tutor to institution communication?

None, really: we plan the courses, and the tutors carry them out.

4 Administration (student database and records)

- 4.1 *Enrolment procedures and fee paying.* What facilities does the LMS provide for student enrolments, course allocations and payment of fees?

The system supports this in principle: it also includes a complete billing system. It even has an option for self-registration. However, we do not use these things at all, because the courses we offer are free for tutors.

- 4.2 *Passwords and security.* How successfully does the LMS handle student access to the system and the security of all student interactions with the system?

We distribute them once only, at enrolment, and every student and tutor can then make alterations according to his or her wishes. It is a very safe system.

- 4.3 *Student records database.* How successful is the system's student database, especially for data storage and data retrieval?

We can record every session we make in its entirety. The LMS records every action – every mouse movement, and every word spoken. We could, if we wanted, give the students the option of editing too, which would enable them to record the session live. For copyright reasons, we usually close down this option, but we consciously use it at some introductory sessions. It is also possible to open contacted recordings in a shop-system on the LMS, where I

can say that this recording may only be downloaded by a particular group, for example, participants who are not able to be there live, and that the recording can only run on this particular computer: i.e. it can not be copied. Or I can decide that the recording can only be played 10 times. But since the demand on staff would be very high, we do not use all these features.

4.4 Examination and certification records. What structures are provided for recording of data and results leading to examination and certification?

That depends on the course subjects. We offer certificates, too, but the process is not recorded in any way. Neither do we use any tools that support the system.

4.5 Course, class and tutors database. What facilities are provided for administration of courses, classes and tutors?

This is the crux of the whole LMS management. Courses, tutors and students are entered in a data bank, and there is a web interface with which the administrators can check what is going on at any point in time.

5 Technology (quality of software)

5.1 Server - hardware and software options. What is the quality of server hardware and software options? How is the system integrated with existing software?

For us, it looks like this: the whole thing is based on a Windows 2000 server. The Microsoft SQL server is used as a databank-backbone. This makes high demands on the Internet backbone. Just setting up a server is not enough: the server has to have a bandwidth which supplies x numbers of participants with datastrings at the same time. The demand on the machine is therefore very high – it has 2GB Ram, and can therefore supply 200 participants in different classes at the same time.

5.2 Client - hardware and software options. What is the quality of client hardware and software options? Does the system permit metatagging?

The demands made by participants are very low. A 133 Pentium with modem access and with an up-to-date browser is enough. The whole thing runs well because of the implementation of a push-mechanism, which means that participants can take up contact in advance with the LMS, and can check whether learning material has been stored there for them already. If this is the case, the material can be transferred without any fuss onto the client's computer, and can then be called up live during a course. Downloading of films and audio material is as a consequence incredibly fast, because the material is already on the client's computer. Only voice, over ip, and a few control elements, are then transmitted live.

5.3 Flexibility of didactic structure; updating, adaptability. Is the didactic structure flexible or is it determined by the technology? How adaptable is the technology to updates and to new technology that becomes available to the market?

Didactically flexible, and open to updating.

5.4 *Limitation of size (number of students, courses, tutors..)* How satisfactory is the LMS for handling varying numbers of students, courses, tutors? How does it cope with 100, 1000, or 10000 students and large course databases?

No problem, really. In the end, the deciding factor is the strength of the Internet backbone. Ours can deal with 200 - and at a very sophisticated level.

5.5 *Speed of system.* How is the speed of the system and student satisfaction? How does it cope with downloading courses and high bandwidth materials?

Very high (see also 5.2)

6 Price

6.1 *Cost of the LMS (Learning Management System).* What is the cost of the LMS to the institution?

We are not permitted to give out any information on prices.

6.2 *Annual fee.* What fees have to be paid annually for the system by the institution?

See 6.1. However, we also have to pay stiff fees to our providers. There is another model that is also very interesting: it is theoretically possible to hire a complete LMS. This so-called interwise express highway would mean that an entire server Net could be used. These models are, however, even more expensive.

6.3 *Student Enrolment fee (100 students, 1000 students, 10000 students.)* How do fees to use the LMS vary when the student base is 100 students, 1000 students, 10000 students? Is online invoicing available?

It is free. The system offers an online invoicing option, but we do not use it.

6.4 *Maintenance costs: staff involved in management, IT specialists, trainers, etc* What is the maintenance costs to the institution of the LMS and what staff resources are need to maintain it and keep it functioning?

The LMS is operated by 2 people working part-time. One person working full-time would be enough.

6.5 *Training of teachers and learners and system users.* What costs are involved in staff and student training to use the LMS system?

Our project team consists of six people. These are basically the usual teaching staff, but who are allocated free hours by the Ministry of Education. These people train other tutors free of charge. So here we just have our staff costs. The working hours involved would cover three full-time teaching jobs. The training itself is carried out in Presence sessions, or over the Net. This is our offer - training free of charge, in the hope that other trainers across

Germany also use the platform to offer free courses for us too (see also 1.3).

Conclusion: Overall evaluation:

What features would you like to see included in this LMS in the future?

Only that the tools for synchronous work become a little more refined. In our opinion, management etc, effective working capability, and stability, are impressive as always.