

COMPREHENSIVE ANALYSIS OF EXISTING LEARNING MANAGEMENT SYSTEMS (LMSs)

Status: Interview accepted Nov. 5.

Name of institution:	Nettgymnas (Norsk Privatskole)
Type of institution:	Nettgymnas is a private, Secondary School. It is owned by Norsk Privatskole, which operates a private, face-to-face high school in Tromsø, Norway. Nettgymnas is the name of their online teaching activities.
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Name of training manager:(Optional)	CEO, Trond Herfindal, Telephone: +47 56 53 01 74, Email: trond.herfindal@nettgymnas.no, Office location: Voss, Norway
LMS used:	Coursekeeper. It is a standard system developed by the Norwegian company Boxer Technology. Contact: Knut Andreassen
URL of LMS:	coursekeeper.com and www.boxer.no
Language of LMS:	Norwegian and English
Number of years in use:	We have spent two years developing the course content. We introduced Coursekeeper in August 2001.
Other LMSs used:	We used Authorware for and Flash for development of the course content.
Number of students in the system:	Restricted information
Number of courses available:	6, Norwegian, English, Mathematics, History, Natural Science (naturfag), and Social science.
Typical duration:	Our courses have individual start and pacing. We recommend that students read one or more courses in parallel during a complete school year.
Number of tutors in the system	We have six tutors who also work as content experts. Each course is developed by a content expert with support of course designers. The content experts also teach the online courses. All of them are full time teachers at our face-to-face school in Tromsø. They are paid extra for the online teaching.

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 used Authorware og Flash for content creation. We are satisfied with these tools, but they have many advanced features that are not easy to use. [Nettgymnas]

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?

Animation and audio are important components of our courses. The tools handle this very well. I perceive them as flexible, but not easy to learn. [Nettgymnas]

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

Five people work with Flash development, only a few of the content experts have developed some flash material. [Nettgymnas]

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?

We have not developed any video content. Our experiences with development of graphics, audio, and moving images are positive. [Nettgymnas]

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

We provide some assignments in the courses. The students must write some essay-style e-mail messages to the tutor. The tutor then provides feedback via e-mail. Our tutors do not grade the assignments. We do not use online multiple-choice assignments. [Nettgymnas]

2 Student support tools

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

We provide interactive content, e-mail communication, discussion forums, and chatting. [Nettgymnas]

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?

2.3 *Online student to tutor/institution communication (synchronous and asynchronous).* What facilities does the LMS provide for student communication to the tutor ion 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?

We guarantee students response from tutors in less than 48 hours. Our goal is 24 hours. The administrative staff handles administrative questions. [Nettgyrnas]

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?

The only resources we provide are links to internal and external Internet resources. [Nettgyrnas]

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

The tutors are part- time employed as online tutors. [Nettgyrnas]

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?

We have log-files that show which assignments the students have completed and how much time they have spent on the course. [Nettgyrnas]

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

CourseKeeper provides class lists, chatting channels, and discussion forums. The system administrator creates new users with individual passwords and gives them access to the course resources. This is done by creating an individual progression plan (studieplan) that defines all assignments the student should complete. This is somewhat cumbersome. [Nettgyrnas]

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?

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?

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

It is possible to dispatch messages to a group of users, for example all tutors. [Nettgyrnas]

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?

Students buy textbooks in a local bookstore. Laboratory equipment is shipped from the main office. Invoices, salary, and other economic transactions are handled by a separate system, which is not integrated with CourseKeeper. We do not provide online credit card payment. [Nettgyrnas]

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?

CourseKeeper supports individual passwords. We have not experienced any problems with the password system. [Nettgyrnas]

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

We do not issue any diplomas or certificates. CourseKeeper provides a logging function. It is possible to create an individual progress plan. Whenever a task is completed, it is transferred from the progress plan to the CV-file. This functionality is of special interest to the corporate sector. [Nettgyrnas]

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

The tutors provide individual feedback to the students via e-mail. [Nettgyrnas]

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

CourseKeeper provides a number of search and sort facilities. It is based on meta tagging according to the SCORM standard. See inspera.no for more information on standards. [Nettgyrnas]

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?

We have remote access to CourseKeeper via Boxer's service which is hosted by Telenor. We experience some problems with this limited access. There are for example some problems related to fire walls and file transfer via FTP. [Nettgyrnas]

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

The students need to install plugins for CourseKeeper, Authorware player, and Flash Player. They also need a relative new PC and at least ISDN capacity. [Nettgyrnas]

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?

The course content will be updated every semester, but simple updates of links etc. are handled during the semester. [Nettgyrnas]

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?

We have not experienced any technical problems. [Nettgyrnas]

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?

We recommend that the students at least should have ISDN bandwidth. [Nettgyrnas]

6 Price

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

Restricted information. [Nettgyrnas]

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

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?

The students pay about NOK 4,000 per course. In addition they pay about NOK 500 for the textbooks included in a course. [Nettgyrnas]

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

Restricted information. [Nettgyrnas]

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

Conclusion: Overall evaluation:

I recommend that one use standard systems wherever it is possible. Design the course content first, then choose the LMS. It would not have been vice, if we had chosen LMS 2 years ago. Much has happened with the standard systems during

these two years. We have done much pioneer work, and there were few institutions we could get any advice from. [Nettgymnas]

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

I would like to see a more flexible system. We sometimes feel too dependent on Boxer's structure and thinking. [Nettgymnas]