

COMPREHENSIVE ANALYSIS OF EXISTING LEARNING MANAGEMENT SYSTEMS (LMSs)

Name of institution:.....Cork Institute of Technology

Type of institution:.....Higher and further education

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LMS used:.....Top Class 3.1.1.....(version 5 also).....

URL of LMS:.....http://157.190.240.35/top class

Language of LMS:.....English.....

Number of years in use:.....1995 onwards.....

Other LMSs used:.....Moving to WebCT. Also tried Proto (University of Oulu) and Blackboard.....

Number of students in the system:.400-500 Mainstream/Projects/Staff materials.....

Number of courses available:....10.....Typical duration:..100 hours.....

Number of tutors in the system:.....full-time 3; other project tutors

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?

Top Class provides a publishing suite. Using a product called TopClas Assistnat you can convert a Word or (less successfully) a PowerPoint file into a plug file which can then be uploaded to the server. From Word or PowerPoint you can also create a TopClass Publisher file which allows for easy-editing of structure and content before you again publish as a plug file and upload. Publisher can also be used to create courses from scratch. You can also write individual pages in HTML live

Publisher doesn't work as it is meant to: All kinds of problems occur in the conversion of Word to Plug, or Word to Publisher or (less frequently) Publisher to Plug files. Problems exist which seem to differ from one computer to another, typically however you may find that pages disappear; you publish it and find format is not identical; some things that weren't there appear.

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?

A major factor is the way it understands what a course is. It forces you to regard a course as a series of folders and quizzes and bundles them together as a course.

It is sufficiently open-ended to allow you to use discussion forums, case conferencing, web weaving to expand this in-built notion of a course. It provides these and you can try to make them work towards creating more innovative interactive courses.

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

It is not easy. I was extremely reluctant to give teachers access as instructors and administrators because it became difficult to convey to others how to make it work because it does not work the way it should. There is for example a confusing distinction between editing class materials and editing course materials. Sometimes it seems that new material which you can see an administrator cannot be seen by your students.

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?

This is provided only to the extent that the WWW provides. If you have the expertise you can put them up but Top Class and its Authoring suite does not facilitate you. There is no special provision by Top Class.

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

There is a separate authoring package for creating tests. It provides 5 or 6 different versions of quizzes and multiple choice questions: list matching, Boolean, upload text. Quizzes can also be created directly using an online development tool and some HTML. Assessment seems to be seen as consisting of just quizzes. I personally uses quizzes as only as comprehension tests to make user pause as they click through material. These are not really assessment tools.

2 Student support tools

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

Asynchronous discussion forums and email are provided. There are no desktop conferencing or synchronous forums.

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?

No synchronous provision. There are one to one options like email and discussion forums. Students send messages on a one to one basis to each other and to the institution. 'Select user' is a good facility. There is an announcements page but this is only for the instructors.

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

One to one communication through messages in an email system which can be tracked is the provision. Plus discussion forums. How you use it pedagogically is the challenge but it is a good facility. A whiteboard might be a nice addition.

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 basic way is for the instructor to provide a link to web-based materials or to a pdf for download by students. You click to bring the reference up within the Top Class system. There were complaints about the printing option. Also you can be timed out which looking at this material as the system no longer regards you as being within it.

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

The basis is the one to one asynchronous facilities - the server corrects the questions and gives feedback and then triggers additional features. If you want to work with it you could provide context sensitive feedback but it would take months of time to set it up.

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?

It is a good system once you have figured out how it works. For the list of students you get: mail/look student's profile/coursework/review of submissions they have sent in/test progress/you can look at what pages they looked at/ when they did so/how much they looked at/ what % of material each student looked at/what % each student has clicked on to/which actual pages each student has clicked on. A brilliant facility.

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

There is a create/edit class facility. On day 1 you associate students and instructors for each course. There is batch registration of students: you can automatically register 200 students in 1 minute providing their full names in a pre-ordained format, the server then, according to set guidelines produces usernames and passwords. A very useful facility. The role of instructor, by default, has no control over enrolment. Registered users can upload photos of themselves and add some details to their student accounts. Students can also be registered individually. You can assign privileges for each student or batch/class of students; how long they can view the material and other items; you can decide how long the course will run; what being a student or a tutor means etc.

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?

The Top Class manuals are quite good. There is a special authoring package for creating multiple choice questions but it does not work properly. You can also do create questions manually directly but it is laborious.

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?

There are already a large number of monitoring tools for what students studied and submitted. You can get the average mark of the class on assessments. Class progress can be easily studied. You can assign a time frame to parts of the course or the whole course. You can make Part 2 available only when successfully passed Part 1.

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

In general tutors have too few tools and administrators have too many. Changing the defaults is tricky. Top Class 5 has a campus wide administration system which works with an Oracle database. You need a specialist for Oracle.

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?

Top Class 5 promises payment of fees. Batch registration is an excellent feature

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?

Everyone has their own user name and password. If two names are the same it numbers them. It has some pros and cons like any system. Students can change their passwords without telling the administration and this is a problem, though the administrator can override any password. This would mean however that the student can no longer access their account using their new password. Students can use other passwords if they get them.

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

As described above. This is one of the great strengths of the Top Class system.

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

All the discussion forum is archived. To check class grades you go into the student area. When did they do the tests? How many times did they sit the tests? This is a pretty good feature. Subject always to the quiz mentality of the system.

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

Extremely flexible system: perhaps there are too many choices with different privileges at different levels. One problem worth mentioning is that to find an individual user you have to search all users rather than have a search facility for individual classes. Also: Course material is not the same as class material: which can be confusing.

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?

All you need is an NT server or a Windows 2000 server and students don't need any software - a big advantage. It runs on UNIX and Mac as well.

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

Every page of Top Class is in HTML. It can be used with any browser. The .plug file format will only work with Top Class. It is very good at tracking pages or courses or tagging to help you to find pages: useful when pages get dislocated.

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 didactic structure is not really flexible but you can use it cleverly. It could be worse. Because the pages are web-based one can integrate it with other software or systems. 'Click here' to launch NetMeeting is a possibility. One could stick in a chat system. Top Class 5 is said to work brilliantly with new systems.

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?

There are differences between Version 3 and Version 5. Top Class 3 you bought on the number of enrolments at the one time. Top class you buy by the number of registered students in the system. Oracle lets Top Class 5 use a minimum of 1000 students. The basic Top Class 3 licence was for 30 simultaneous users. We have had up to 1000 students on it without a problem.

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?

This depends on the hardware - our people have been very satisfied. We run TopClass 3 on a normal desktop (128 MB RAM, Pentium 3 processor) not a specialised server machine; though this is the only purpose the machine is used for.

6 Price

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

Top Class 3 was £1735 including VAT, but this may have been an institutional price, for 30 simultaneous users per year - this means that 30 could log on simultaneously.

Top Class 5 allows a minimum of 1000 users at £18 per head per year for a total of £18000 per year for a 3 year contract. Then you have maintenance fees plus an Oracle database plus staffing. We consider that Top Class have turned their backs on the higher education market and have decided to change to WebCT.

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

Answer included above plus maintenance fee. In Top Class 5 you have signed away your competence and control is taken out of the hands of educators.

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?

Answered above. There is no online invoicing.

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?

There are two answers to this. There was no problem with Top Class 3. Until recently no problems since installation by an IT specialist which took half day. Top Class 5 is horrendous. It took one full day for a person from WBT Systems plus 2 Oracle specialists and there have been many problems since.

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

Normal costs. Top Class materials are not adequate for staff and student training and we had to write up courses in it for both students and staff. The instructor side is much more complex and depends on instructors' IT literacy and therefore involves a much steeper learning curve. The Instructor and Administrator interfaces seem to

There are things that simply do not work as they are supposed to on both Top Class 3 and Top Class 5.

Conclusion: Overall evaluation:

We were quite satisfied with Top Class 3. It was a bit non-intuitive for developers and there are bugs in the authoring system. It was short sighted of Top Class to move from the higher education market. The Top Class authoring system would have been good if it worked as it was supposed to. We have decided to move to WebCT as TopClass have left behind the HE user in favour of corporate clients. Top Class 5 is also too pricey and runs on Oracle which requires a very specialised expertise to configure and maintain. There are few HE institutes still using Top Class today. WebCT bills itself as the world's "leading provider of e-Learning solutions for higher education" so hopefully they won't abandon their HE clients - Blackboard then seems to be more for K-12.

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

Top Class would be nice if it was not so templated. It needs some synchronous communication, including desktop conferencing. They will have to offer easy ways to do things like inserting Shockwave and Flash content and streaming audio and video and intelligent whiteboarding. It needs to be graphically more inventive and user-friendly: in displaying courses Top Class needs to go beyond this overly-repetitive system of clicking on a left frame index to view content on the right. At the moment TopClass seems to be predominantly made to bring together simple "text and gif"-type pages which don't take advantage of the unique ability of the web to host highly rich media content and support all kinds of collaborative activity. TopClass and other LMSs in the near future will need to offer user-friendly authoring packages for teachers and trainers to create simulations and courses with a virtual reality dimension.