

Appendix A: A short comparison of LLS, COSE and Generic WWW approaches to Distributed Learning at Staffordshire

LLS Version 2.5	COSE Version 1.2
<p>Overview</p> <p>LLS is a Notes based product. Tutors use Lotus Notes to prepare and manage courses. Learners access course resources via a Web Browser and the Notes Domino server translates the resources into HTML (Web) format on the fly as it is accessed.</p>	<p>Overview</p> <p>Entirely based on Web technologies. All content is HTML and media files. Tutors prepare content using their preferred WWW editor (normally Netscape Composer, can be such things as MS Word). All other access by tutors as learners via Web Browser.</p> <p>Content imported into system and organised using COSE editor.</p>
<p>Organisation and Structure of Courses</p> <p>Unit of Organisation and Delivery is a “Course” – a collection of content structured using a Course Schedule to which other resources in the Course Media Centre are connected.</p> <p>Students are enrolled on “Courses” and can only view content in those Courses.</p>	<p>Organisation and Structure of Courses</p> <p>Unit of Organisation is a “Learner Group” to which content is assigned as and when required.</p> <p>Unit of Delivery is a “Learning Opportunity” which consists of one of three levels of remit with resources and lower level of prerequisite remits attached.</p> <p>Learners can also search and access all published material in the system</p>
<p>Ownership, Reuse and Sharing of Content</p> <p>All tutor content belongs to, and can only be edited by its author(s). Tutor content can include embedded and attached “external” format files, e.g. MS Word. Learners can make external format documents (e.g. MS Word essays) available to others via the Course Room discussion.</p> <p>Tutors’ content not easily shared and reused except by duplication.</p>	<p>Ownership, Reuse and Sharing of Content</p> <p>Content is either private to the author(s) or (in the case of tutor content) published.</p> <p>Private content can be shared by owning tutors or learner selectively with any individual or group (or sub-group) of which they are a member.</p> <p>All content (tutor or learner) can include attached “external” format files, e.g. MS Word.</p>

<p>Central “Web-Lib” of reusable multi-media files.</p> <p>Only Course Media Centre resources are described and searchable by keyword (by members of that specific course only).</p>	<p>Built in QA mechanism for publication of content by tutors.</p> <p>Published content is described and searchable by keyword down to media object level by all registered users and can be collected and reused by reference rather than duplication by both tutors and learners.</p>
<p>Submission of Assignments (Essays etc.)</p> <p>Documents produced by Learners can be shared with other learners, submitted for review or marking via the Course Courseroom.</p> <p>Formal submission removes control from learner.</p> <p>Tutor can return comments and issue/record grade within the system.</p> <p>Learners can access grades for marked assignments via Courseroom Portfolios.</p>	<p>Submission of Assignments (Essays etc.)</p> <p>Documents produced by Learners can be shared with other learners, submitted for review or marking via COSE Sharing or Submission features.</p> <p>Formal submission adds submission front sheet, removes control from learner, and emails submission certificate to tutor and learner. Mechanism for easy reuse of learner work by tutors.</p> <p>Tutor can return comments and grade. No recording of grade within the system.</p>
<p>Collaboration</p> <p>Tutors collaborate by being co-instructors on a specific course.</p> <p>Learners collaborate informally in the Courseroom discussion and formally in Courseroom discussion teams.</p> <p>Tutors can make specific Schedule and Media Centre documents and assignments privately available to specific teams.</p>	<p>Collaboration</p> <p>Tutors collaborate as required in Tutors groups and as co-managers of specific learner groups.</p> <p>Learners collaborate informally via private self-managed peer groups. Learners collaborate formally via tutor managed learner groups.</p> <p>All assignments, sharing and communications private to the specific group.</p> <p>All groups can have any level of separately managed (and private) sub-groups.</p>
<p>Communication</p> <p>Sophisticated threaded Courseroom discussion facility. A discussion is private</p>	<p>Communication</p> <p>All groups have private notice boards for use by group managers.</p>

<p>to the Course or Team.</p> <p>A discussion is part of the system and can be retained for future use.</p> <p>No mechanism for having unthreaded discussions.</p>	<p>Sophisticated outgoing email facility allows precise targeting of authors, tutors, individuals and groups. Learners cannot email other learners in groups to which they do not belong.</p> <p>Email received at users University email address. All outgoing subject lines automatically coded with group name, document title being queried etc. This allows received email to be filtered into discussion groups etc. in recipient's email client. If Execmail is used threads can be turned on and off.</p> <p>As an external client is used to read email, discussions not retained within the system</p>
<p>Other Features</p> <p>Assessment manager for creating banks of short answer and MCQ questions.</p> <p>Can use these to create tests, self-assessments, and surveys.</p> <p>Marking of MCQs automatic. Grades retained and organised within the system, and accessible by learners in Courseroom Portfolio.</p> <p>Navigation of the system has some weaknesses – not obvious to learner where they are within the system at all times.</p> <p>No in-built learner tracking – external LDC written facility available.</p> <p>Incorporation of HTML and most other WWW features possible but not especially convenient.</p>	<p>Other Features</p> <p>No MCQ feature.</p> <p>All learner activity tracked. A number of reports available to tutors.</p> <p>Browser navigator means users position within content is clear at all times.</p> <p>All WWW type content can be readily used.</p>

LLS	COSE
<p>Conclusions</p> <p>LLS will suit those wanting highly structured courses. Transfer of content input using Notes format/editor is not easy to other systems. Those wanting to have in depth “discourse” activities will probably prefer LLS. LLS is pedagogically neutral and is the easier system to implement a fairly traditional approach in. Although LLS is powerful at discussion, collaborative working is clumsier than in COSE. Learners cannot look outside their own course for resources and tutors cannot easily identify and reuse content or share content with other courses or tutors. Those wanting MCQ facilities should use LLS</p> <p>Both systems allow easy incorporation of web-links and files in external formats.</p>	<p>Conclusions</p> <p>COSE allows extremely flexible and dynamic approaches, and is directly aimed at active, task driven approaches. COSE allows sophisticated structuring of “learning opportunities” broken down into multiple sub-tasks. It allows learners to search for content outside their own course and view ALL published (not private) content. Tutors can easily search for and reuse any published content by any author (authorship is maintained). COSE is a more powerful collaborative system, but those wanting threaded discussions aimed at in depth “discourse” will probably prefer LLS both for ease of use and because the discussions are held within LLS. Submission of “written work” (files in external formats such as Word, Powerpoint etc.) easier than LLS and safeguarded by certification at submission.</p>

Generic WWW Based products

Staffordshire University not only supports the two Virtual Learning Environments, but also supports generic Web based approaches. There are advantages and disadvantages in using either access to learning resources which may be significant to disabled students and the following is a comparison between the generic WWW approach and the Virtual Learning Environments currently in use.

Generic WWW	COSE or LLS
<p>Overview</p> <p>Allows “total freedom” of technology used within the capability of the server and browser used.</p> <p>Dependent upon available expertise for more complex requirements.</p>	<p>Overview</p> <p>Provide a more “managed environment”.</p> <p>Much lower level of expertise needed to create many types of content and facility e.g. handle the more complex types of media; sophisticated sharing and annotation facilities; submission of</p>

<p>Most complex features are labour intensive and “one-off” in the sense that they are not readily transportable from one “application” to another.</p> <p>Can be very useful for adding “new” features to courses in COSE and LLS, or for providing special front-ends to such courses, for example the “Off-Campus” websites being developed by the LDC for Distance Learning awards</p>	<p>assignments etc.</p> <p>Provide a much more consistent interface for the learner, albeit at the expense of some restriction of choice.</p> <p>Where extra facilities are needed, they can be developed using web-based approaches and added in, particularly in the case of COSE.</p>
<p>Organisation and Structure of Courses</p> <p>Structure of “content” up to the designer. Requires well-developed course design skills.</p> <p>No simple way of restricting access by group without significant web programming effort.</p> <p>This tends to make Web-based approaches “content” rather than “learner” centred.</p>	<p>Organisation and Structure of Courses</p> <p>Have some degree of inherent structure, which the course designer must work within.</p> <p>Each provides sophisticated and easy to use access control.</p>
<p>Ownership, Reuse and Sharing of Content</p> <p>Content belongs to those with permission to write to that area of the server.</p> <p>Learning server will have the equivalent of COSE “published content”.</p> <p>Complex control of “sharing” not possible without writing your own programs to do it.</p>	<p>Ownership, Reuse and Sharing of Content</p> <p>Sophisticated control of ownership and precise control of sharing.</p> <p>COSE provides very easy reuse of content across courses.</p>
<p>Submission of Assignments (Essays etc.)</p> <p>Not possible without writing your own programs to do it.</p>	<p>Submission of Assignments (Essays etc.)</p> <p>Both systems provide mechanisms for submission and feedback.</p>

<p>Collaboration</p> <p>Formal and controlled mechanisms not possible without writing your own programs to do it.</p>	<p>Collaboration</p> <p>Both systems have built in and controllable facilities, COSE especially so.</p> <p>Both systems (with COSE 1.2) provide annotation facilities.</p>
<p>Communication</p> <p>Via standard email, via bespoke features developed using web programming or by add-on products.</p>	<p>Communication</p> <p>LLS has threaded discussions, COSE uses carefully contextualised outgoing messaging and group notice boards.</p>
<p>Other Features</p> <p>MCQs via writing your own programs or by buying in WWW-Based assessment software.</p> <p>Not easy to ensure learner doesn't become lost in the content.</p> <p>No learner tracking.</p>	<p>Other Features</p> <p>LLS has fairly sophisticated MCQ facilities.</p> <p>COSE 2.0 will provide basic MCQ facility.</p> <p>COSE's browser navigator means users position within content is clear at all times.</p> <p>COSE provides learner tracking.</p>

It should be noted that both COSE and LLS have undergone significant development since the study took place. COSE has moved on from Version 1.1 to Version 2, which is now in late beta release. Version 2.5 of Lotus LearningSpace has now been superseded by Version 3.5, and a differing product, LearningSpace 4, released. Details of specific developments can be found at the COSE website (<http://www.staffs.ac.uk/COSE/>) and at the Lotus website (<http://www.lotus.com/home.nsf/welcome/learnspace>).