THE IMPLEMENTATION OF LEARNING DESIGN USING LAMS (LEARNING ACTIVITY MANAGEMENT SYSTEM) IN AN ESOL ADULT CLASS

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Abstract

This paper examines the effects of implementing learning design using LAMS (Learning Activity Management System) on a group of ESOL (English for Speakers of Other Languages) pre-intermediate adult learners, two practitioners and the researcher at a further education college in London. It considers whether it would be advantageous to use LAMS more widely in the ESOL Department. The feasibility of re-using and re-purposing LAMS learning designs in the department is also explored.

Introduction

This paper examines the effects that the implementation of learning design using LAMS (Learning Activity Management System) has on a pre-intermediate class of ESOL (English for Speakers of Other Languages) adult learners at a further education (FE) college in London. Learning design is defined as an activity-based student-centred approach to teaching and learning.

ESOL adult learners come from a huge variety of countries inside and outside Europe. Although they come from diverse cultures, religions and educational backgrounds, they have a common aim of learning English in order to live and/or study in the UK. The groups of students in this study are enrolled on a fulltime programme and part of their course includes a CALL (Computer Aided Language Learning) session. It was hoped that LAMS would enhance the CALL session and their language learning generally.

LAMS is software for designing, managing and delivering online learning activities which was developed by James Dalziel of Macquarie University in Australia. It allows teachers to create sequences of activities for learners supporting a variety of models of learning. The learning design tool LAMS is promoted by LAMS International (2007) as "a revolutionary new tool for designing, managing and delivering online collaborative learning activities". It was developed as a response to the IMS LD specification and since 2005 has become open source

software. It has three main modes; an authoring mode for teachers to plan and design online or blended lessons, a learner mode for students to access the activities and a monitor mode so teachers can see what students are doing while they are engaged with LAMS activities.

This study will focus on:

- 1. estimating the impact of LAMS on learning and teaching in an ESOL adult class using a blended environment;
- 2. estimating the impact LAMS had on the teaching staff who used it;
- 3. establishing whether it is feasible to re-use and, or re-purpose LAMS learning designs in the ESOL Department;
- 4. establishing whether LAMS should be used more widely by ESOL practitioners in the college.

Literature Review

Design for learning is a comparatively new field. This paper will attempt to define the term and examine how the IMS Learning Design Specification informed the concept and acted as the driver for LAMS. Key LAMS studies in the United Kingdom and Australia will be reviewed to ascertain the impact it has on teaching and learning.

There is considerable confusion between design for learning, sometimes referred to as learning design and 'Learning Design'. The latter (capital 'L' and 'D') is a term used to describe a technical specification known as the IMS Learning Design (LD) which supports online learning through activity, whereas learning design (lowercase '1' and 'd') has been defined by JISC (the Joint Information Systems Committee) (2006) as "a set of practices carried out by learning professionals". This definition emphasises the essential difference between the two terms but does not capture all the facets of learning design.

Beetham (2007) recently redefined design for learning as "a set of practices carried out by learning professionals... defined as designing, planning and orchestrating of learning activities, which involve the use of technology, as part of a learning session or programme". The learning activities must be structured, include the practices of learners and learning professionals, course design, session planning, activity design and learning objects. She concludes that for learning to take place, the designs must be realised or run.

Dalziel (2003:2) stresses that 'Learning Design' is activity based and "more concerned with context rather than content" supporting collaborative as well as individual learner approaches to e-learning. Britain (2007:104) agrees with Dalziel that learning design is a reaction against the use of virtual learning environments (VLEs) as repositories for content delivery. This view contrasts with that of Brown (2005) who sees learning design "as a philosophical approach to the design of learning environments and learning resources".

Although there is a lack of consensus in definition, the difference between design for learning and Learning Design seems to be that design in Learning Design is also the instantiation of the design so one could argue that it is more than a plan or design which focuses on learner activity rather than content.

The IMS Learning Design (LD) Specification was released in 2003 and is based on the Educational Modelling Language (EML) developed by the Open University in the Netherlands, with the aim of improving the pedagogical quality of e-learning courses and ensuring that designs are interoperable and employ user-friendly tools (Koper and Tattersall, 2005). This specification is intended to help technologists and instructional designers rather than teachers. LAMS was not initially compliant with the IMS LD Specification but LAMS V2.0, released in 2006, is Level A compliant. This means that LAMS has "a series of time ordered learning activities to be performed by learners and teachers, using learning objects and/or services," such as forums (Jeffrey and Currier, 2003).

In the first LAMS trial at Macquarie University in Australia in 2004-5, teachers commented on the high level of student engagement with learning while using LAMS, and that students had enjoyed the experience (Gibbs and Philip, 2005). Practitioners also mentioned a higher student participation rate in discussions and were impressed that their designs could easily be shared, although most were not yet willing to share them. Gibbs and Philip observe that using LAMS made practitioners more reflective of their pedagogy and aware of the necessity of giving clear instructions.

In a teacher trainee LAMS trial at Macquarie University in 2005-06, the trainees found that, unlike other lesson templates, LAMS enabled them to produce "a fully operational lesson, not just a paper-based outline that still had to be translated into a lesson" (Cameron, 2006:28). Trainee teachers usually plan their lessons and then have to develop the materials separately but LAMS allows them to plan a lesson which includes all the resources. LAMS can therefore be

used for planning and delivery; a finding echoed by the JISC EDIT4L (Education of Design and Implementation Tools for Learning) Project in 2006-07 (Childs et al., 2007, Riddy et al., 2007).

LAMS first UK trial was at Kemnal Technical College (KTC) in Sidcup. Butler (2004) reported that teachers felt that LAMS aided their students' learning, understanding, cognitive skills and enhanced motivation. He stressed that motivation remained high, "even after the students had been using LAMS for more than a year" (Butler, 2004:81).

The Centre for Research in Primary Science and Technology (CRIPSAT) and the University of Liverpool trialled LAMS in 2004-05. The teachers considered LAMS supported differentiation, revision, self-paced and collaborative learning as well as promoting independent learning. This study, like that of Cameron and Evans (2007), emphasised how LAMS encouraged student participation in discussions especially where anonymity was observed. Both studies commented that instant feedback from the system or their peers motivated students. However, students in the eLISA (e-Learning Independent Study Award) Lifelong Learning Project noted "that peer learning either excessively influences one's own thinking or results in 'wrong' learning" (Jameson, 2006:21).

The JISC sponsored practitioner LAMS trial in 2004-2005 concluded that LAMS is able to support a range of pedagogical approaches and whilst introducing LAMS would increase a practitioner's workload in the short term, this would reduce in the long term. Teachers stressed that LAMS enhanced students' motivation and participation rather than the achievement of learning outcomes.

The JISC eLISA Lifelong Learning Project (2005 -2006), the JISC eLIDA CAMEL (e-Learning Independent Design Activities for Collaborative Approaches to the Management of e-Learning) Project (2006-2007) and the JISC ALeD (Authoring using Learning Design) Project (2006-07) all successfully trialled LAMS (Jameson, 2006, Jameson et al., 2008, Pearce, and Cartmill, 2007). However, the JISC DeSILA (Designing and Sharing Inquiry-based Learning Activities) Project in 2007 concluded that it is not flexible enough to support advanced inquiry based learning with university students (Levy et al, 2007).

The issue of re-using and re-purposing LAMS designs is a theme explored by several studies (Walker and Masterman, 2006, Masterman and Lee, 2005a, 2005b). Philip and Cameron (2008) consider this important for the success of learning designs so that teachers can share materials. However it rarely occurs in practice.

There is little research regarding ESOL students using LAMS. The JISC ALeD project mentioned use of LAMS with ESOL Entry 2 learners but did not elaborate upon that (Pearce and Cartmill, 2007). Alexander (2008) confirms that "LAMS ESOL-related research is an area requiring development". However, he concludes that as LAMS is literacy based, it "might be more suitable for, or manageable with, higher level learners who may also feel more confident about 'publicising' their ESOL writing".

Methodology

This case study is set within the interpretivist paradigm (Cohen et al., 2007). In this paradigm the viewpoints of the participants are examined taking a holistic approach. The study examines (A) E2A, a class of ESOL adult pre-intermediate students, (B) E2H, a control group of ESOL adult pre-intermediate students and two ESOL practitioners (Sh and La) who have used LAMS. The researcher acknowledges the issue of potential bias in that the students were taught by her (Miles and Huberman, 1994). However, steps were taken to relative neutrality, such as ensuring there were not any leading questions posed in the questionnaires and interviews.

E2A has fifteen students, the majority of whom are female. They have a wide age range, come from a variety of countries and have a range of educational experiences. A control class, E2H, was chosen as it is a parallel class of ESOL fulltime students which has a similar profile to E2A.

The methods of data collection used are listed in Table 1 below. The variety of methods ensured that all the students were asked for their views about using LAMS either orally and/or in writing. Their learning was also measured by examining their work in the sessions.

Table 1. Methods of data Collection

Sample Group	Data Collection Method	Timeframe
Student Group E2O	Pre-lesson worksheet	April 2007
(pilot group)	Interactive quiz	
	Student writing	
(4 pre-intermediate	Post-lesson worksheet	
students)	Post-lesson paper-based questionnaire	
Student Group E2A	Pre-lesson worksheet	May 2007
(LAMS group)	Interactive quiz	

	Student work in lesson		
(15 pre-intermediate	Post-lesson worksheet		
students)	Post-lesson, paper-based questionnaire		
	Post-lesson on-line questionnaire		
	Student writing		
	5 x 30 minute semi-structured taped interviews		
Student Group E2H	Pre-lesson worksheet	May 2007	
(control group)	Quiz		
(11 pre-intermediate	Student work in lesson		
students)	Post-lesson worksheet		
	Post-lesson, paper-based questionnaire		
2 Practitioners	2x 30 minute semi-structured taped interviews	June 2007	
(La and Sh)			

LAMS was introduced to E2A before the case study lesson to make students familiar with it and to avoid the 'wow' factor. A pilot lesson was then carried out with four students from E2O, another parallel class to ascertain and correct any problems with the session.

The LAMS case study lesson involved introducing 15 E2A students to modal verbs of obligation. They were given a pre- and post- class worksheet to assess learning during the session. The activities included a face to face presentation followed by paired practice of the target language. The LAMS activities included PowerPoint slides of grammar points, an interactive quiz, a chat, interactive web-based grammar exercises and a forum (see Appendix 3). An optional evaluation questionnaire was given to the students at the end of the class but all the students completed it.

To identify whether using LAMS was an effective tool for teaching and learning, a parallel class of ESOL students with a similar profile to E2A, namely E2H, was chosen as a control group. E2H was given the same lesson on modal verbs of obligation but in a face to face setting with paper-based exercises.

To measure students' learning in the LAMS and non-LAMS lessons, the researcher gave both classes the same worksheet on modal verbs of obligation at the beginning and end of the lessons. The difference in scores for each group gives an indication of the learning that took place during the lesson.

Research Findings

The worksheet scores indicate E2H (control students) had a better understanding of modal verbs of obligation before the lesson than E2A (LAMS students) but by the end of the lesson E2A students had learnt more, and their scores were slightly higher than those of E2H.

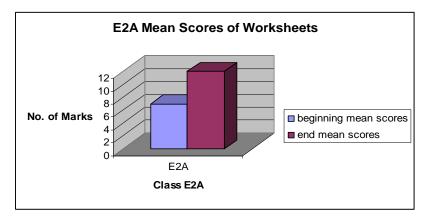


Figure 1. E2A Mean scores of worksheets at the beginning and end of the lesson

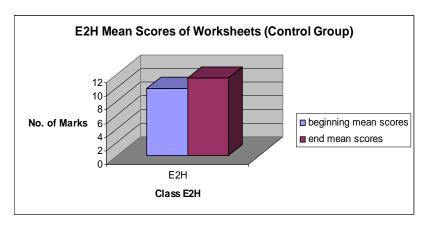


Figure 2. E2H Mean scores of worksheets at the beginning and end of the lesson

Fourteen E2A students (93%) compared to nine E2H students (82%) indicated that they had enjoyed the lesson, worked hard, understood everything and contributed to every activity. Gibbs and O'Sullivan (2005) point out that anonymity is important for students to contribute freely and although this was adhered to initially, following E2A requests after the initial use of LAMS, the researcher changed the students' user names so that they would recognise each other. The effect of this was to make students feel more comfortable.

E2A students' questionnaire comments about using LAMS were mainly very positive in that they felt they had understood how to use modal verbs of obligation and they all wanted to use LAMS again. E2H had more negative comments to make about their lesson as can be seen in Appendix 1.

The researcher also observed that although E2A and E2H completed the same tasks, the students who used LAMS demonstrated a more positive attitude to learning and were more engaged and motivated than the students who did the exercises on paper.

The researcher interviewed five students from E2A, two of whom thought the LAMS lesson was more enjoyable than usual grammar lessons, which echoes the finding in the eLISA project (Jameson, 2006). All five students reported that they wanted to use LAMS again and stated that all the activities were either excellent or very good.

E2A students were asked for their views on LAMS a week later when they completed an online questionnaire for the eLIDA CAMEL Project and wrote about using LAMS. Their opinions were consistent with the views they expressed immediately after the LAMS lesson and in the student interviews. Appendix 2 shows an analysis of the students' writing.

Two ESOL practitioners **Sh** and **La** trialled LAMS as part of the eLIDA CAMEL project and were interviewed for this study. **Sh** thought his LAMS sequence took about six hours to prepare because of a problem with the interactive quiz but the second sequence was much quicker. **La** said that LAMS helped him think through his sequence. **Sh** remarked he had enjoyed preparing the lesson especially being able to include activities which students worked on independently.

The practitioners had differing views as to whether LAMS enhances learning but thought it motivated the students. They observed that the students responded well to novel activities. **Sh** would have liked to have created differentiated activities for more and less able students which is now possible using LAMS V2.1.

In spite of some technical difficulties, such as printing difficulties and problems accessing an online dictionary, both practitioners reported that they had enjoyed using LAMS and anticipated using it again. However, the practitioners felt it might be hard to persuade other ESOL teachers to use LAMS due to the training time needed and because of anxiety about using IT. They were also cautious about re-purposing LAMS sequences as they felt it might be time consuming.

Discussion

Although the LAMS group (E2A) showed evidence of greater learning during the lesson, the small sample sizes make it difficult to extrapolate to a wider population. E2H (the control group) students' final scores might be partially explained by boredom as they completed a great number of paper-based exercises. Additionally, it is acknowledged that the comparison of worksheet scores is only a crude indicator of learning.

E2A wrote rules for sharing a flat with an acquaintance in an online forum, whereas E2H wrote the rules on paper. Most students used modal verbs of obligation correctly. However, E2H did the exercise independently whereas E2A students were able to read what other students had written, which particularly helped the weaker students as they had examples of what was expected. E2A students were happy to share their written work in LAMS with classmates.

The literature indicates that LAMS supports independent learning (Masterman and Lee, 2005a, Jameson, 2006, Russell et al. 2005), which seems to be confirmed in this case study as E2A students worked independently in the 'chat' whereas E2H students asked for help.

Another advantage of the LAMS lesson was that absent students were able to work through the sequence the following week with little support. This was not practicable with E2H, owing to the number of worksheets involved and minimal written instructions.

E2A students all wanted to use LAMS again so the researcher used it with the group six times in the summer term for a variety of purposes and they remained positive about its use, as supported by Butler (2004).

The practitioners enjoyed preparing and delivering their LAMS sequences but commented that creating their first sequence was very time consuming, which is in line with Masterman and Lee's (2005a) observation that adopting LAMS initially increases the teachers' workload but this reduces with practice. They considered that LAMS motivates students, which is endorsed by other LAMS studies (Butler, 2004, Jameson, 2006, Masterman and Lee, 2005a, Russell et al, 2005).

They want to use LAMS again but are concerned about the ease of repurposing learning designs and persuading colleagues to use it owing to the time it takes to become familiar with the tool, an issue commented on an issue commented on by other researchers (Masterman and Lee, 2005a, 2005b, Walker and Masterman, 2006 Lucas et al, 2006).

Conclusions

The findings of this case study are that the design for learning tool LAMS enhanced the teaching and learning experience of ESOL adult students and the practitioners who used it, had a positive effect on student motivation and participation and aided independent learning. The collaborative activities were particularly successful. However, this is a small case study so any conclusions can not be generalised. Furthermore, the researcher taught the students under investigation and was not unbiased.

All the students want to use LAMS again and in this case study enhanced learning; seen by comparing worksheet scores of the LAMS class, E2A with the control class, E2H (Figures 1 and 2). This result was confirmed in the student questionnaires regarding their enjoyment of the lesson and their participation and learning. The effect on students' learning was less clear to the other practitioners but they considered there was potential for LAMS to enhance learning which is in line with other LAMS studies.

The practitioners also want to use LAMS again and considered that LAMS complemented the way they plan lessons, giving them an opportunity to create a range of activities that they could not provide without it. However, they were sceptical about persuading colleagues to use LAMS due to fears of using IT and the time needed to become familiar with LAMS. They were also concerned about the ease of re-purposing other teachers' sequences. However, the researcher has since re-purposed one of the practitioners' sequences. These findings suggest that LAMS can be used successfully with lower level students.

Owing to the positive results of using LAMS for the students and the practitioners, a further larger study is recommended within the ESOL Department at the FE College. As this study only examined 15 ESOL students and two practitioners, the findings can not be generalised beyond its confines. The next pilot needs to involve a larger number of practitioners and students from beginners to advanced students.

To achieve this:

- there needs to be an institutional buy-in by the Senior Management Team (SMT) and middle managers;
- practitioners need to be introduced to LAMS as a pedagogical tool and invited to take part in the pilot;

- practitioners need to be trained to understand design for learning and how to use LAMS;
- LAMS has to be hosted and supported either by the College or LAMS International;
- in-house, on-going mentoring and teaching support for practitioners new to LAMS needs to be set up;
- practitioners should trial LAMS with different levels of ESOL learners across the College.

Other recommendations are to:

- establish which levels of ESOL learners and in what situations LAMS is most effective;
- create a bank of sequences and encourage the re-use and re-purposing of LAMS sequences;
- disseminate the finding that LAMS enhances the teaching and learning experience of ESOL students and practitioners in other colleges suggesting that they consider using LAMS with their ESOL students;
- roll out LAMS to other subject areas within the college, if the pilot is successful,
- integrate LAMS with Moodle, as college has decided to use the latter, as it is easier to set up LAMS classes in Moodle.

Note

Owing to the positive outcomes of the work with LAMS reported in this study, the FE College has agreed to support a further pilot of LAMS in the ESOL Department. The results of which will be reported to <u>ALT-C</u> in September, 2008.

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Appendix 1 A questionnaire extract - given to students after the lesson on modal verbs of obligation

E2A LAM	E2A LAMS Group E2H Control G		Control Group
No. of	Student comments	No. of	Student comments
students		students	
4	Helpful	1	I like in this lesson something new for
1	Easy		me and I understood it.
3	Interesting	1	Because it will help me with the exam
1	Useful to improve English		and with English.
1	Did all exercises, could check	4	Modal verbs
	answers – grammar	2	Improve English
1	Chat	2	Liked everything
5	I can now use modal verbs	1	New
9	Liked doing grammar	1	Good way to teach
1	Interesting to do something new.	1	Teacher made us feel at ease
	Grammar exercises	1	Interesting
1	Quiz	1	Talking with a partner and thinking o
2	Learnt a lot		new examples and comparing answers.
1	Enjoyed lesson		Listening and writing
2	Liked everything	1	Useful
3	Good program	1	I have to use in the speaking exam.
1	Liked the system	1	The activities
1			
		1	
What didr	't you like about this lesson? Why?		
7	Nothing	2	Not enough time
1	Wasn't sure where to click when I	1	Too many exercises filling in gaps. Need
	wanted to do the next task.		to use my own examples.
1	Didn't like the chat - didn't have		Too much writing because I found i
	ideas for chatting and I'm very slow.	1	quite difficult to do so much writing is
1	Too short wanted to use more		the classroom.
	LAMS.		Nothing.

1	Questions about the lesson.	1	I wanted more practise together not just	
2	No response	1	filling in exercises and checking the	
			answers because today was a listening	
			and speaking class and I can see we	
			didn't have listening practice. 1	
		1	Sometimes it was a little too fast.	

Appendix 2 Analysis of E2A Students' Writing

Student ages						
16-19		1	1			
20-29		5	5			
30-39		5				
40-49		1				
Countries of Origin						
Afghanistan	1	Kosovo			3	
Angola	1	Poland		3		
China	1	Portugal		1		
Ecuador	1	Somalia			1	
	1			<u>'</u>		
Previous education						
Primary			1			
Secondary			2			
College		5				
University		2				
			•			
Previous computing 6	education					
0-6 months	1					
7months -1year	1					
More than 1 year						

Do students like using computers? All (12)

Li I really enjoy doing it because it is helpful for everything. Computing skills are perfect.

Kh I enjoy using computer because it is helping me to learn more grammar and how to chat.

Ag I enjoy using computers because I learn grammar, writing and reading and use internet.

Cl I really like using computers because computers are the door to the world if you don't know how to use a computer you can't do anything.

Lu I really like use computer because I can improve my English other writing o[r] learning I will say go[o]d I always use to work which [with] computer.

Am It help my English a lot. I really like using computer because it helps me how to write quickly and my handwriting as will [well].

Bi I would like to use a computer because I can get more information in computers because I get more information.

Go I really regret I cannot devote more time to using the computer

Ame I enjoy using computer because I can get more information about different subject.

Dh I rally [really] enjoy using computer because I learn grammar, chatting, messages and Internet. To use the computer for me is very is important because If I want to do something in future it's good for me.

Ka I enjoy using a computer when I do my homework, grammar exercises and I listen to BBC English courses. It is a good way to increase my knowledge about Great Britain.

Aga I enjoy using computers. I like working on computers because computers are our future and for me are very helpful and interesting.

How do students use computers?

Kh it is helping me to learn more grammar and how to chat.

Ag I learn grammar, writing and reading and use internet.

Cl to do some exercises, read news and contact friends.

Li I can improve my English other writing o[r] learning I will say go[o]d I always use to work which [with] computer.

Am helps me how to write quickly and my handwriting as will [well].

Bi I sometimes check my homework.

Go I usually do grammar exercises, use a dictionary to learn new vocabulary and to check meaning of words. I develop my listening skills by listening to BBC English courses. I do my homework on the computer. I can simultaneously practice my typing and using software programmes.

Ame Chick [check] grammar and homework.

Dh I learn grammar, chatting, messages and Internet.

Ka when I do my homework, grammar exercises and I listen to BBC English courses. It is a good way to increase my knowledge about Great Britain. It is very useful and helpful for my progression in English.

Where do students use computers?		
home	3	
college	3	
both	4	
other	1	

What students liked about LAMS

Li The best thing in the Lams lesson was chatting with other students.

Kh Using LAMS helped me how to use chat and modal verbs.

Ag I really like to use LAMS because I learn grammar skills.

Cl LAMS helped me with my learning because it gave me more knowledge about general English. It's a very helpful and easy way to learn English. I liked doing the exercises best.

Lu It helps a lot using LAMS I thing [think] the best for me is discussion [forum] I learnt the Modal verbs of Obligation, grammar etc.

Am I really enjoyed chat, because it was good to take [talk] someone in the internet. I learn some rules that I didn't know before. Yes I using and it help my English a lot and I think it improved in my future plant [plans].

Ame I liked best internet exercise. I learnt grammar in the lesson. I using LAMS help me with my learning.

Bi I liked the Internet exercises best. I learned some grammar in the lesson.

Go LAMS is very interesting and useful. I had the opportunity to increase my knowledge of English. I chatted with my classmates and I think this is an interesting way of improving my English. After that we did a quiz about modal verbs of obligation. It was very helpful. Then we did some grammar exercises which I found useful and now I know when to use – have to, must, should etc. The last activity was a forum where we wrote rules for sharing a flat. This was useful because I was able to see what my friends wrote too.

Dh I like use LAMS we did learn grammar, chatting and some quizzes. Using LAMS helped me to learn more.

Ka we used it [LAMS] to learning English grammar, did a lot of grammar exercises, chatted with other students about courses in the future.

Aga I really like using LAMS. I did lots of activities. For example; I had a chat, quiz but the most important things are I can check my answers on the computer so I don't need to wait for a teacher. This is a very useful program because you can choose which exercises you want to do.

I don't know what I like best but in my opinion it is easy and very helpful so this is an important way of using computers.

I found lots of interesting exercises. I had a good time using LAMS and I hope I will use this program in the future.

What students didn't like about using LAMS

Li I didn't like doing some of the exercises, they were helpful but some of them were too difficult.

Lu I would not say I don't like anything because all is interesting.

Am I didn't like the questionnaire because sometimes it is difficult to answer.

Bi I didn't like chatting.

Go I found it a little difficult to know what to do when I finished a task.

Do students want to use LAMS again?	Yes 11	No -	No answer
			1

Li learning is going very well by using LAMS. It is getting much better doing Quizzes chatting to each other. I don't have any other comments about this lesson, I may just say carry on with this way of learning and teaching.

Kh I because I would like to use LAMS again and again because I would like to learn more grammar. LAMS will help me a lot. I would like to use lAMS to improve my English and vocabulary too.

Ag I lke to use it for grammar, speaking, reading writing and chatting.

Cl Off course I would like to use it again.

Lu it helps a lot using LAMS because it does more interesting the lessons. [It makes the lessons more interesting.] Carrion [carry on] which [with] this lesson because really help to the students to improve the English. I think the LAMS are good for grammar and reading and writing.

Am Yes I really like using LAMS again in my future to help my English I like using my Grammar and vocabulary.

Bi I would like use LAMS again to help me learn English, because I need to use LAMS for grammar, speaking and listening, reading and writing.

Go however, the programme is good and I am going to use it again, because in my opinion it helps me

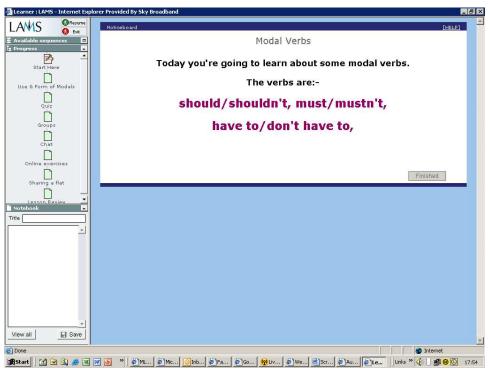
to make progress in learning English.

Dh I like use grammar, vocabulary, speaking and listening.

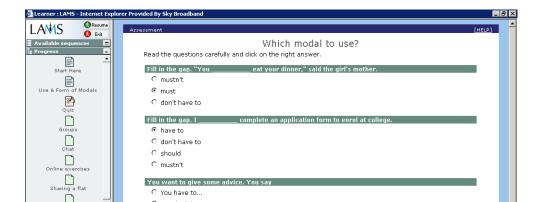
Ka In my opinion LAMS is very helpful to improve our English. I think I will use this programme in the future.

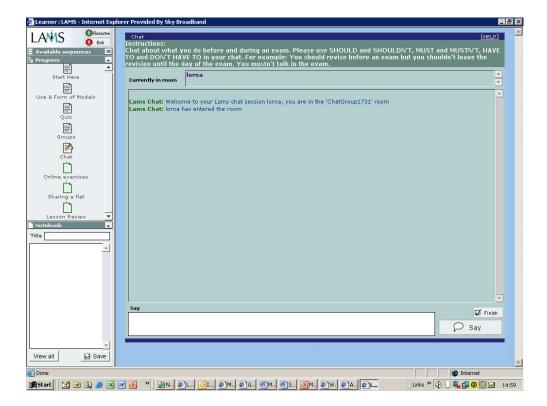
Aga I would like to use LAMS again. This is a very interesting program which is very helpful so I can improve my English. I found lots of interesting exercises. I had a good time using LAMS and I hope I will use this program in the future.

Appendix 3
Screenshots of Student Mode of the LAMS Sequence on Modal Verbs of Obligation
Notice Board

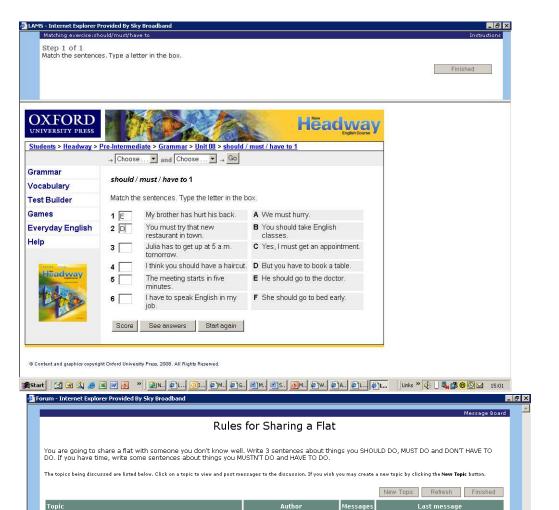


Interactive Quiz on Modal Verbs of Obligation





First Interactive Exercise



Review of Lesson

