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Citation:

Wilson, JL (2010) Information Smoothies: embedding information skills in assessed learning. *Assessment, Teaching & Learning Journal (Leeds Met)* (9).

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Document Version:

Article (Published Version)

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# Information Smoothies: embedding information skills in assessed learning

Jennifer Wilson

A collaborative project was undertaken in the academic year 2008-09 between Library and lecturing staff at Leeds Metropolitan University to embed information literacy skills within assessed module workbooks. Workbooks were delivered through a Virtual Learning Environment (VLE) alongside face-to-face sessions on specific resources. Although no mechanisms for measuring effectiveness were included in the project plan, the data from the software used (Intute: Informs) has provided an opportunity to discuss possible explanations for usage levels and improvements in future projects.

## Blended learning and information literacy skills

In response to the growth of IT and of distance and flexible learning courses in the expanding higher education sector, blended learning has developed over the last decade to enable learners to educate themselves (Macdonald, 2006). By combining traditional and technological learning methods, blended learning attempts to enable students to take control of their learning by making it more engaging and relevant to real life scenarios. The basic principle of blended learning is the integration of face-to-face communication and online written communication to produce "a unique learning experience congruent with the context and intended educational purpose" (Garrison, 2008, p. 5).

Much of the success of blended learning lies in the student's ability to find, use and evaluate information effectively and ethically (CILIP, n.d.). These skills, sometimes referred to as information literacy skills, both underpin educational success and provide transferable skills of value to future employment.

## Background

A Senior Lecturer in Hospitality had previously used blended learning methods (a combination of workshops and workbooks) with the aim of improving student engagement. It was anticipated that a blend of face-to-face sessions and individual/group activities of self-study would help students engage with their subject on a more personal level. Students attended workshops and lectures to introduce them to new concepts and went on to complete workbooks, individually and in groups, which combined exploration of concepts with assessed exercises. The workbooks were delivered through the Leeds Metropolitan University Virtual Learning Environment (VLE) in Microsoft Word format, combining a module

handbook layout with assessed exercises for students to complete.

Although the students were engaging with their subject as hoped, the lecturer had found that the students seemed to struggle to find the best resources available from the Library. As a result, the lecturer and Library staff developed the idea of joining forces to try to help students improve their information literacy skills.

## Method

It was agreed that Library staff would work on modules for Levels 1 (50 students) and 2 (35 students) of the BA Retail Marketing Management to develop ways in which they could contribute to the delivery of teaching resources for information literacy.

An Academic Librarian and two Information Service Librarians worked together to produce learning objects, "[to] enable and facilitate the use of educational content online" (McGreal, 2004). These learning objects (LOs), in combination with Library resources, relevant face-to-face Library sessions and the course assessment, were intended to help students improve marks by using better resources and develop their skills while completing exercises for assessment.

The majority of LOs were tutorials created using free website-guide software (Intute: Informs). Informs allows students to work on live web pages (any resource which displays in a web browser), while being guided step by step by a 'guide at the side' of the web page. The software is a useful means of helping users to navigate and learn how to use especially complex academic web-based resources, and was selected as it suited the requirements and expectations of the lecturer.

As the workbooks had already been developed and tested by the lecturer, Library resources were embedded into the workbook instead of being offered as a stand-alone module. It was hoped that students would treat the Library tutorials as an integral element of their assessed coursework, finding the support they needed conveniently situated throughout the workbook. Repetition was anticipated because of the nature of the workbook content, with the intention to offer continual support for students in their use of the Library catalogue and journal searching and additional support throughout the year.

Table 1: Example workbook tasks and embedded content

Task	Associated Learning Object
Find a particular book	Tutorial about using Library catalogue
Consider cross-cultural stereotyping in a business context (individual response)	Link to 'Cross-Cultural Capability' section on Skills for Learning web pages
Consider cross-cultural stereotyping in a business context (group response)	Link to 'Group Work' section on Skills for Learning web pages
Accessing journal articles independently	Interactive Intute tutorials created for EBSCO, Emerald, Social Trends and Mintel

The workbooks were sent from the lecturer to the Library staff well in advance of the module delivery date. The team of librarians developed a spreadsheet of the interactive tutorials, learning objects and links, and listed which tutorials would be embedded into which workbooks. Standard text was agreed on to insert into the workbooks linking to tutorials to maintain an in-house style and make future work easier. A database was maintained, listing the resources used in each workbook which could serve as inspiration for the types of resources used in subsequent workbooks. Once the tutorials, learning objects and links were completed, they were inserted at the relevant places within the workbooks and then uploaded onto the VLE module.

## Results

As the original intention of the project was to see if a collaborative blended learning model could work for teaching information literacy skills, no mechanisms for measuring effectiveness were included in the project plan. Despite the lack of organised data collection, data were available through the software Informs on the number of times each tutorial was accessed per month. Tables 2 and 3 show which tutorials were accessed the most over the five months, and which of the five months had the highest number of tutorials accessed.

Because individual users may have accessed a resource more than once, it cannot be assumed that each user counted is unique. Furthermore, as all 75 students from Levels 1 and 2 were accessing the same tutorials, there was no opportunity to gain two sets of usage results.

Table 2: Total number of users accessing each tutorial in the academic year 2008-09

Name of tutorial	Number of users	Number of users as %
Mintel: Finding specific information	18	10%
Emerald Database searching	9	5%
EBSCO: Finding a specific journal	9	5%
How to find a particular journal title	106	55%
Nexis: How to search newspapers	4	2%
Social Trends: Finding specific information	5	3%
Library Catalogue: Finding a book	37	20%
	Total: 188	100%

The results throughout the academic year from October 2008 to February 2009 showed that the peak usage months were November (40 users) and January (111 users).

Table 3: Total number of users accessing all tutorials per month 2008-09

Month	Number of users	Number of users as %
October	1	1%
November	40	21%
December	27	14%
January	111	59%
February	9	5%
<b>Total</b>	<b>188</b>	<b>100%</b>

Again it must be stressed that these numbers do not indicate, for example, that 111 individual students accessed a tutorial, but that the tutorial was accessed this many times.

## Findings

One of the main findings was that the tutorial on 'How to find a particular journal title' was accessed the most; the tutor stated that a likely explanation was that he did not cover journal research in-depth in the classroom. This was a positive result for the tutor as it showed the students had used the tutorial to develop their own skills. This result could also suggest that journal research remains a difficult skill to achieve, with students appreciating the availability of a supportive tutorial to guide them through the process (De Groot & Dorsch, 2003).

It is well documented that how we access information, and how information is made available, can be seen to have decreased the value of information in society (Castells, 2009; Whitworth, 2009; Leaning, 2009) and that the transition from school to university shows gaps in students' abilities to locate and use good academic resources (Julien & Barker, 2009). University libraries are well placed to help students attain information skills for life by helping them to access self-help resources (Gross & Latham, 2009; Owusu-Ansah, 2004).

Some of the tutorials were created to help students use web-based subscription resources. From the information in Table 2 it is clear that the tutorial on Mintel was the most highly accessed of the subscription resource tutorials. This could reflect the more complex user interface or that this resource is of most use to this set of students, so that they valued a detailed tutorial. The tutorials for the other subscription resources (Nexis, Social Trends, Emerald and EBSCO) were intended as an introduction for first-year students; however, the lecturer suggested that second-year students might also find these useful.

Table 3 suggests an interesting indication of the timeliness of information literacy support, in the way that access fluctuates in different months. Assignment deadlines were in November and January, which suggests that students were using the resources close to the assessment deadlines. The low number of users in October could suggest that information literacy skills are best taught at the point of need and/or that the traditional teaching sessions the students attended were sufficient for that time of year.

The number of hits in December was quite high considering students are on holiday for two weeks of the month; this suggests they were preparing for the assessment due to be submitted in January. By December students would have received feedback from the first assignment submitted in November, and the December number may indicate that students were using the resources in preparation to improve their assignment standard.

The tutor was surprised to see the high number of hits for the 'Library Catalogue' tutorial. It could be suggested that students might benefit from a short refresher session face-to-face on catalogue searching in December or January as this is some time after they would have attended their Library Induction in September.

The number of hits for all tutorials increased greatly during January, suggesting that a follow-up session, or further offers of support (Skills for Learning workshops/Academic Librarian support) on information literacy skills might be appreciated by students. It is important to stress that Library Inductions and ongoing training sessions are a vital part of welcoming and supporting students at the University and online materials are intended to enhance, not replace, the traditional services offered.

## Conclusions

The opportunity to offer support to students with a timely, subject-related approach needs further investigation. As this project began on a small scale, diagnostic testing both before and after the module was not implemented; this is something which must be used in future to assess whether this kind of support can be linked to improved information literacy skills. The lecturer reported that the students' bibliographies were better than he had expected in contrast with previous years' work. It would be beneficial to follow up the course with a Library resource question in the module feedback form to see if the information and training met the expectations of the students and if any other resources would benefit from this type of support.

Although the initial project was quite small, its adaptability to different uses has ensured the findings will feed into the Library's emerging Information Literacy Strategy. The next stage of the project will be a larger and more extensive pilot study which it is anticipated will feed into an initiative to offer this support University-wide.

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Jennifer Wilson

Information Service Librarian

Library Project members:

Susan Smith, Information Service Librarian

Lisa Bastiani, Academic Librarian