Part 1. Paper Presentations

GRADUATE SKILLS AND WORKPLACE LEARNING ON MARITIME PROGRAMMES AT LJMU

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Abstract. In 2007 LJMU developed a university wide initiative to provide all students on courses of 2 academic years or more with the opportunity to gain a graduate skills certificate as well as their final degree. The graduate skills programme or WoW (World of Work) as it is now known, encompasses the seagoing courses as well as the Maritime Business and Logistics programmes. The initiative covers both skills learnt in the classroom as well as those requiring time in workplace activities. The latter requirement is easily accommodated in sea service for those on the seagoing programmes but requires some imaginative input to Maritime Business and Logistics courses.

This paper explores in detail how the two disciplines of Maritime Business and Logistics at LJMU have embraced the need to encompass the WoW initiative and the success they have had in that direction. Lessons learnt and student and employer feedback are also assessed with conclusions drawn. Reference is made to Nautical Science where necessary.

1. INTRODUCTION

The LJMU central university adopted a work-based initiative in the academic year 2006–7. The initiative involved all courses being mapped against a series of 41 graduate skills listed in eight generic areas. Also included was the requirement for courses to ensure that all students had the opportunity to experience work based/ work related learning amounting to 12 credits of study on programmes lasting 2 years or more. This then included the Nautical Science foundation degree plus the honours degrees in Nautical Science; Maritime Business and Transport and Logistics. Each of these degrees already had some elements of work-based learning (WBL) either as a result of the professional accreditation as in the case of Nautical Science or because programme teams had included these elements prior to the WoW (World of Work) initiative as in the case of maritime business and transport and logistics. In the case of Maritime Business the work-based learning was increased as the existing provision did not reach the 12 credit minimum requirement.

2. LITERATURE REVIEW

Work-based learning is not exclusive to LJMU and exists in many higher education programmes in the UK (Nixon et al 2006)[1]. What is perhaps innovative, in the case of the LJMU WoW scheme, is that the University supports the idea in the administrative and programme development areas. A Graduate Development Centre (Fallon 2009) [2] has been created, which students can attend for specific graduate work related skills such as interview techniques and CV writing and also Faculty Skills Support Officers have been employed to interact with staff and students to assist with the implementation of the initiative at the programme and student level. One of the end products of the initiative is a "Graduate Skills Certificate" (Larson 2009) [3] that can be used by students to provide prospective employers with an understanding of the transferrable skills held by the student. The technical skills obtained from the specific programme material are covered in the degree transcript.

WBL gained a boost in 1997 by the "Dearing Report" recommendations, which found that institutions should "increase the extent to which programmes help students to become familiar with work" (UEL 2007) [4]. Glasgow Caledonia University has set up a "Scottish Centre for Work Based Learning" and has several courses specifically devoted to "recognising the wealth of untapped knowledge in the

workplace" (Gcal 2008) [5]. Thus implementing work based learning into a degree programme structure is seen as important in the UK University sector if not a UK requirement. The types of WBL are many. "Brief Encounter, Short Project and Sandwich Placement" (Brennan and Little 1996 pg 10) [6] plus "Independent Studies and Negotiated Learning" (Boud and Solomon 2001 pg 8) [7] are just a few that can be identified. These examples however do not consider the use of WBL in the context of shipping business or maritime and logistics in general and thus this is the subject of this paper.

Seagoing has always used WBL as a crucial part of the learning process towards the attainment of a Certificate of Competency. The title Nautical Science (NS) is the UKs name for diplomas and degrees directed towards seagoing deck officer qualifications. At degree level these courses are offered at BSc (Hons) and (Foundation Degree) FD levels (Bonsall et al 2006) [8] and by virtue of the professional competence required, students must have 12 months seatime before obtaining their OOW Certificate of Competency and a further 18 months in order to achieve Chief Mates. It is the first 12 month period that is counted as the "Work-Based Learning" by the FD NS and BSc (Hons) NS programmes. This period has to be assessed and therefore time is available in the college sessions for discussion on the nature of and activities undertaken during the WBL. Owing to the assessment requirements of the Nautical Science routes only service on certain ships is applicable and must be approved by the Maritime & Coastguard Agency (MCA). This means that students not gaining service on UK ships will not be able to satisfy the WBL element of the NS programmes and thus the courses are not open to non-EU students. Some EU students, particularly Polish students have gained experience on UK ships in which case they have been able to take advantage of the programme.

Maritime Business students need time to develop their experience in shipping offices and this is often difficult to obtain (Wilkes 2005) [9], (O'Hare 2007) [10]. Sandwich placements of up to a year are common within the UK University sector and when obtained for LJMU students satisfy the WoW requirement. Unfortunately not all students seek a year out and not all would be able to achieve this even if the demand existed. Thus the maritime business programme team have a dual approach to WoW with all students being involved in a level-2 group project as well as taking part in a level 3 visiting lecturer module which acts as an Autumn lecture series. This generates several assignments and has been particularly successful, with both students and speakers being upbeat about the experience. The speakers talk for 45 mins to 1 hour once per fortnight during semester 1 and students have to produce 5×200 word reports, as part of a group lead a debate and subsequently the groups make and present a poster on the topic of the debate.

3. GRADUATE SKILLS INITIATIVE

In 2007 LJMU centrally started an initiative called JMU Plus. This was an attempt to implant in all courses of 4 semesters or more a set of workplace skills identified by employers as being important key skills for all graduates. JMU Plus or WoW as it has now been termed, also included work related or work based learning to at least 12 credits which is 10 % of one level's work. Tables 1 & 2 show the graduate skills sectors as well as the individual academic skills within those sectors.

In all there are 41 graduate skills and each can be taught, practised and assessed. Programme teams are only charged with assessing skills and not teaching or practising, although in order to assess a skill it is necessary to practise and often, but not always, to teach it. Skills such as spelling and punctuation are not taught within the curriculum, although help classes are available for those who feel weak in this area. However, they are assessed and thus will be practised. Clearly this is done in all written work and now some of that work will have feedback on this aspect.

The requirement is for all skills to be available for completion during the period of any qualifying student at the university. Programme teams must, in their student programme handbooks, show how these skills are can be achieved by mapping the skills to the modules. The practice is for core modules to be used so

that all students are known to have the opportunity to achieve all skills even though they may not take up those opportunities. Thus the workload for these skills assessments tends to fall on a few modules.

The initiative has run for 2 full academic years now and only students joining at level 1 of a 2 or 3 year (level) programme were included, thus no student has yet completed and obtained a certificate. During the year 2007–8, the first year of the initiative, most students were only vaguely aware of the scheme's existence. In September 2008, the start of the second year, every student on a 4 semester or more programme was given a memory pen containing the details of the WoW initiative. This was part of the University's programme of raising the awareness of the graduate skills initiative. Thus, through the 2008–9 academic year more and more students have been asking for their graduate skills assessment.

Table 1

LJMU Graduate Skills A – D

Skill	Skill Sector		Individual Skill
A	Analysing and Solving Problems	1	Identifies potential problems, issues and risks, identifying courses of action and recommends solutions
		2	Seeks out and uses all relevant available information and identifies strengths and weaknesses in arguments/ situations
		3	Breaks down complex information and identifies the key information using logical arguments/ reasoning
		4	Relates and compares information from several sources, reviewing evidence before coming to a conclusion
		5	Distinguishes between facts and assumptions, drawing clear conclusions from complex information
B	Team working and interpersonal skills	1	Involves self and others in tasks and acknowledges other people and contributions and perspectives
		2	Shares information and gains commitment by putting forward arguments that are supported by facts
		3	Asks questions to clarify understanding and notes key facts
		4	Makes well-organised contributions, summarising and testing group understanding
		5	Uses different approaches and contributions, summarising and testing group understanding
		6	Has regard to the impact on other people of his/ her actions and decisions
C	Verbal Communication	1	Communicates clearly in one=to-one conversations, listening and responding appropriately
		2	Makes useful contributions to group discussions, listening and responding appropriately
		3	Presents information to a group, demonstrating understanding of the subject material, explaining terminology in language appropriate to the audience, and listening and interacting appropriately to maximise audience understanding
		4	Presents and argument or opinion in a structures way, using evidence to make the case
D	Written Communication	1	Conveys complex concepts in words, diagrams or other media
		2	Structures information appropriately with clear introduction and conclusion
		3	Content of a range of document types/ media items is easily understood and fit for purpose
		4	Spelling, punctuation, grammar and presentation are of the appropriate standard
		5	Demonstrates a variety of vocabulary, style and tone according to the recipient/ audience

Source (JMU PLUS 2008)[11]

The assessment process is proving controversial in some areas. Many skills are easy for staff to assess, others not so. Those concerning group skills can be difficult as within any group it may be impossible to distinguish who has completed what work. A group report cannot generate individually assessed skills as it is not known which member of a group completed which section of the report.

Table 2

Graduate Skills E – H

Skill	Skill Sector		Individual Skill
E	Personal Planning and Organisation	1	Sets targets and priorities to take account of short and long-term needs
		2	Establishes a course of action for self and/ or others to accomplish a specific goal
		3	Regularly reviews objectives, improvement plans and career development plans
		4	Actively seeks feedback on performance and identifies further learning opportunities
		5	Ensures that opportunities are found to reinforce new and developing skills, and keeps up to date
F	Initiative	1	Able to act on own initiative when appropriate to the situation
		2	Recognises and develops "innovative" solutions to work and/or study, looking for new or better ways of doing things
		3	Demonstrates initiative by taking on problems/ task outside his/ her normal role without being asked
		4	Makes decisions in appropriate situations and seeks to learn from the outcomes
G	Numerical Reasoning	1	Utilises numbers to communicate ideas
		2	Handles numbers accurately, efficiently and can apply skills in context
		3	Interprets data in charts, tables and graphs and appreciates their importance in displaying data
		4	Analyses and interprets the different relationships between sets of numbers
		5	Recognises patterns and underlying trends in data and can use them to generalise and interpolate
H	Information Literacy and ICT	1	Recognises an information need and is able to construct an appropriate strategy to meet that need
		2	Locates and accesses information, with an understanding of provenance and relevance
		3	Demonstrates a good understanding of databases being able to set up simple databases and being able to use complex databases set up by others
		4	Sets up and uses a spreadsheet to solve a problem
		5	Uses a presentation tool appropriately
		6	Uses other general-purpose software effectively
		7	Utilises ICT safely, securely and legally

Source (JMU PLUS 2008)[11]

4. DATA COLLECTION

The data for this paper has been collected over the last six years of delivering the project module "Project Preparation and Commercial Project". This module fits well with the WoW initiative, however preceding it by several years. This is not unique within the University with many schools and programmes having work-based elements to their curriculum. Indeed the BSc (Hons) Management, Transport and Logistics course has had a 12 credit WBL module at level 3 for the 14 years of the programme.

Feedback forms from both students and managers involved in the Maritime Business level 2 WBL module have been collected after each series of projects and these results can be reported here. In the last two academic years the new autumn lecture series has brought in several outside speakers and has seen the idea of debate introduced to the undergraduate programmes. This initiative has been successful with students and speakers being pleased to be part of the events. Feedback and experience from this programme is also contained in this paper.

Tables 1 & 2 show all the graduate skills with their generic areas. It can be seen from these tables that some skills are readily obtained whilst others may be difficult to provide in a programme. The University has provided some on-line maths tutorials for use by students on non mathematical programmes in order that they can obtain the numerical skills sector skill. Skill H5 "Uses a presentation tool appropriately" is perhaps easy to provide and assess; Skill I3 "Demonstrates a good understanding of databases being able to set up simple databases and being able to use complex databases set up by others" is not so easy to provide if databases are not part of the syllabus of any programme module. The method of feeding back to students takes a variety of forms: from a straight statement that a skill has been passed to verbal statements that a student is working toward a skill but not there yet through to a numbering system of 1 outright fail to 5 clear pass. The Skill Support Officers have started to develop databases of student skills in order to monitor the development of students through the skills profile.

5. MARITIME & LOGISTICS MODULES

The Maritime Business and Logistics programmes have both had work-based opportunities in them prior to the WoW initiative. Both were in the form of projects, however the logistics projects were offered at level 3 the final level whilst the maritime projects are offered at level 2 at the end of the project preparation module. The maritime programmes have to cater for more students (circa 30) whilst the logistics programme generally has less than 10 students. The logistics module runs over the whole of the final year, whilst the maritime project is just in the last 4 weeks of level 2. One of the main problems for both sets of programmes is finding projects. The logistics programme has used the University as a business having logistics problems and thus student groups have been able to work on these. The maritime business programmes must use firms in the Liverpool area close to the centre, although the Port of Liverpool was used this year which is a 30 minute bus ride outside the centre. Over the six years of the maritime projects it has always been possible, be not necessarily easy, to find firms willing to engage in these projects. In general firms are happy to help if possible.

5.1. The Maritime Business Module

The Maritime Business WBL module is at level 2 and called "Project Preparation and Commercial Project". The WBL section is the commercial project part with the project preparation part providing an introduction to students to the work they will have to do during the level 3 dissertation. Putting the commercial project into the project preparation module provides the students with the opportunity to go out into the workplace and meet with industry managers and perhaps forge links for data collection in their level 3 project. It may also open up career possibilities on graduation.

The commercial project is 40 % of the total assessment for the module and thus does not equate to the 12 credits required by the WoW initiative. It does however work towards this requirement and with the level 3 visiting lecturer module has satisfied this need for validation purposes. The nature of the commercial project is that all level 2 maritime business and maritime studies students will have to opportunity to be involved. Occasionally a student decides not to be involved and thus loses the marks but can still pass the module on the remaining 60 % of the assessment. Students are put into groups of 3 to 5 members, often those with the same interests. Thus students who have shown a desire for navigation will be in the same group/s and given a project in or close to that area. The students must work for a nominal 20 hours each on the project and produce a 10 minute presentation with 5 minutes of questions

plus a 1000 word group report which can be given to the firm to close the feedback circle with them. Table 3 gives the titles of projects attempted over the years.

Table 3

Maritime Business Projects

Project Title	Company	Year	Project Title	Company	Year
Heavy Lift Movement	Warrant Distribution	2003,4,5,7&8	Museum Displays	Mersey Maritime Museum	2006&8
Company Induction Process	ACL	2003,4,5,6,,7&8	Ferry Opportunities	Mersey Ferries	2005
Database Analysis	Mersey Maritime	2003	Ship Management	Meridian	2007
Customer Analysis	Hapag Lloyd	2005	Ship Management	Bibby Ship Management	2008
Database Design	Bibby Line	2005	ISM Code	Meridian	2008
Port State Control	Marine & Coastguard Agency	2006 &7	Customer Complaints	Meridian	2008

Table 4

Examples of Transport Projects (Roberts 2009)[12]

Project 1 (Movement of People)	Project 2 (Movement of Goods)
University Analysing problems of students needing to access an out-of-town site away from main teaching and learning resource facilities	*Consultancy/Home delivery business* Assisting a consultant producing a report into efficiency improvements in home deliveries
University Reviewing the implementation of a workplace travel plan	*Logistics company* Looking at the employment market and advising the company on whether its terms and conditions for managers were appropriate for the market
Passenger Transport Executive Analysing passenger flows on a selected railway route into a city centre and suggesting service enhancements	*Transport authority* Advising the authority on issues relating to the introduction of controls on road freight transport operations in a major city
Passenger transport group Producing a methodology for analysing the market with an anticipated reregulation of local bus services	*Consultancy* Assisting the consultants with work they were carrying out for the Department of Transport on Freight Best Practice
Local authority Advising the authority whether a commercially viable heritage tourist bus service could be introduced	*University* Analysing the market for Masters level courses in logistics and international trade
Passenger Transport Executive Examining options for light rail operating replacing conventional trains on a radial route into a city centre	*Coal producer* Advising the owner of a number of collieries in the of options for using their sites as logistics centres following the cessation of coal production

The projects are developed in discussion with the firms. There is some reluctance from firms new to the initiative and some firms prefer not to continue in future years for a variety of reasons. Some, such as "Warrant Distribution" seem more than happy to take part year on year even if only contacted at a moment's notice. Input is needed from the firm, thus for firms new to the projects it is necessary to have preliminary discussions in order that the requirements are understood. The projects developed out of a need for students to be involved in the "real work" process and not to be just spectators as they are in the case of an industrial visit. They are therefore required to become involved and the firm's managers are told that it is for the students to run the project and to report back to them at the end.

The firm's managers then have the opportunity to feedback to the students. After the first round of projects it was decided to appoint each year an academic supervisor for each group. This supervisor is only there to provide advice to students not to be involved in any way with the development of the project. Often the academic supervisor will attend the first meeting with the firm but the managers are told not to discuss the project with this academic but to focus the discussion on the students.

5.2. The Logistics Module

The logistics WBL module has been part of the Transport and Logistics degree since its inception in 1995. It has always been at level 3 as that programme team felt that students below this level would not have sufficient confidence and background to do justice to the projects or the firm offering the projects. These projects differ from the maritime business projects in length, number for each student and student deliverables. Table 4 shows some of the logistics projects studied since 1995. Each student takes part in 2 projects, one in each of the two academic semesters. The semester one project is movement of people and the semester two project is movement of goods. Owing to the small cohort on the logistics degree only one project per semester has been studied with students split into groups with each focusing on a different aspect of the project i.e. one group may take the financial and profit aspects and another may take operational aspects. The programme leader has always taken the lead role in these projects and accompanies the students on visits to the firm.

The student deliverables are a presentation on the firm's premises and a major report at the project end. This report may be several thousand words long and is more comprehensive than the report required for the maritime business project.

5.3. The Maritime Visiting Lecturer Series

Outside speakers are always good for student development and add much to any programme. The Maritime Visiting Lecturer series is conducted under the title of a level 3 module called "Contemporary Issues". The series consists of 5 lectures with each lecture immediately followed by a seminar to include the outside speaker. The week after the visiting lecturer has attended a group of students hosts a debate, the motion of which is derived from, and is drafted at the talk. The student group chosen to lead the debate thus has one week to prepare their side of debate, whether for or against the motion. The week after the debate the next outside speaker presents and the student group leading the previous week's debate presents a poster showing their assessment of the issues covered.

The student deliverables are that each student must submit a 200 word report on each of the visiting lecturer talks, be part of a group leading a debate and presenting a poster. The poster is worth 30 % of the module marks and the debate and reports are each worth 35 % making each report worth 7 % of the module marks. The students have the opportunity to talk with the visiting speaker and can often follow up dissertation issues with those speaking in the same area. Table 5 lists some of the visiting speakers and debate topics.

Table 5

Contemporary Issues Visiting Speaker Topics

Topic	Speaker's Firm	Topic	Speaker's Firm
2007/8		2008/9	
Ultra Large Container Ships	CMA/CGM	Ultra Large Container Ships	CMA/CGM
Loss adjustment	Hogg Lindley	Marine Insurance	Attain Training
Developments at the Port of Liverpool	Engineering Manager PoL	Liverpool Cruise Facility	Liverpool City Council
Port State Control	MCA	Maritime Clusters	Mersey Maritime
CPAT	Mark Rowbotham	The Marine Bill	Hill Dickinson

6. FEEDBACK

The general feedback overall is very positive from all parties about these modules and the potential benefits to students. Benefits to firms are less obvious and some employers feel that there are no immediate benefits. Clearly in the long run the experience gained by students will enhance their employability and it also acts as a form of advertisement of the firm and its place in the market. Specifically with the maritime business level 2 project some firms are unwilling to take part a second time. There is a time commitment from the firm's managers and the return on this commitment is intangible. The need for the firm to be part of the educational process is a bridge too far for a small firm or those with limited managerial time. Employers usually find that students don't ask enough questions and take the most advantage of the expertise of managers. Recently a student group complained that they hadn't had support from the firm with the firm replying that they hadn't asked for support and complained that the deliverables from the students were the poorer for lack of this input.

Maritime student feedback is usually very good although students do like to do projects linked with their own career goals or in their academic area. Maritime students faced with the development of websites, even if the project is only to provide the material for a website, see this as outside their academic area and even when told they may have to do this when they first start work, they feel somewhat cheated if the project isn't changed. Similarly in 2007 a maritime business group was given a project to look at the transport plan for Liverpool but felt that this was not maritime business and thus not their area. The students also feel that the project comes at the wrong time, being in the last 4 weeks of semester 2 and thus just before the examinations. The programme team, whilst hearing the complaint, feel that the timing is right as the students are well through level 2, have lots of coursework behind them and in the six years of the projects no group has failed to present reasonably successfully except for the time the students refused to take part on content grounds.

Feedback on the logistics projects is always very good. Students find them challenging and firms are pleased with the deliverable. Through the years the logistics programme external examiners have always been very complimentary about these projects. Students do feel that where they have to work within LJMU then the project is less real but even then they can see the advantages.

Feedback on the visiting lecturer series and the deliverables from the students is that they enjoy the talks and find the debates and posters stimulating and beneficial. The 200 word reports are disliked initially because students have problems reducing their word count to 200. Visiting lecturers and firms involved in the series find the report size very good as in the workplace there is a need for short concise reports on events including talks and conferences attended by employees and these short reports are good practice. The more reports submitted by the students the better they become and the more adept the students become at reducing the word count. Thus the programme team feel that this assessment is particularly relevant.

7. DEVELOPMENTS

All three modules have run several times and thus there is experience of each to use for any developments. Also the modules have been integrated into the LJMU Graduate Skills and WoW initiative. This aspect means that there is less opportunity for development than before WoW as the integration means that changes must be considered in line with any impact for the programmes on their WoW status. This said at all times all modules are considered for development to a greater or lesser degree.

The level 2 commercial project suffers from the poor student/ firm feedback at the project end. The culmination of the module is a seminar held outside the University campus in an industrial setting. For 4 years this was in the Mersey Maritime board room and for the last 2 years it has been the Liverpool Chamber of Commerce council chamber. The setting and event aspect of the seminar has been excellent with students rising to the occasion and the ability to get five or six employers in one place listening to student presentations being well received. The fact that all employers have not attended is a problem because one or two groups have not presented to their firm thus the feedback loop is not closed and students feel let down. A possible development is for the students to present in the firm at a time convenient to both parties. Difficulties here are standardisation of marking and difficulty of providing academic staff members to do this.

The level 3 logistics project has run in its present form for the life of the module and there doesn't seem a need to update this. Difficulties arise in finding suitable projects and fitting projects to group size. This has been achieved in the past thus immediate developments are not planned.

The visiting lecturer series has run well for 2 years and the assessments have proved useful. There is a standardising problem if the same assessors don't assess all projects. Students have shown disquiet with some marks owing to this aspect. The increase in discussion areas through a more diverse range of speakers is one development, however this will be done on a talk by talk basis when speakers become available.

The integration with the graduate skills initiative has gone well with University skills assistants providing positive feedback about all 3 modules. Some graduate skills are difficult to assess, however these modules provide a flexible way of achieving that assessment.

8. CONCLUSIONS

Work based learning is now an integral part of the undergraduate programmes offered at LJMU and this development has enhanced and improved the provision for students. The graduate skills initiative has assisted in defining, for the programmes, the amount and type of WBL to be provided and has provided a focus to key-skills' modules learning outcomes. The programmes are better for inclusion of these graduate skills as they can provide a catalyst for the topics of assignment work. Feedback from companies is that the industry projects and visiting lecturer contact with the programme and maritime section are welcomed and from the students that they value the experience.

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