LOGISTICS EDUCATION FOR RAIL FREIGHT OPERATIONAL MANAGERS

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ABSTRACT

This paper discusses logistics education for rail freight operational managers. As an example, teaching in one module of postgraduate course in Rail Freight Logistics is presented here. It includes the aim of the module, teaching methods including traditional classroom lecture, seminar lectures, field trips to logistics activities, individual and group coursework, feedbacks on the exam papers and course works etc. The paper sheds some lights on the pros and cons of the teaching methods that were applied in the previous teachings.
The paper concludes that there should be flexible teaching methods and the students should learn that there are competing and alternative transport services and the rail freight transport has to understand and meet customers' requirements.

Keywords: Logistics, rail freight transport, research-led teaching,

WHAT IS LOGISTICS?

Logistics is about moving products (goods) from one place to another as per the requirement of customer by for example rail freight transport. This is one (transport) elements of total logistics service. There are other elements of logistics service. For example, the products need to be stored somewhere in transit meaning it needs warehousing (i.e. warehousing element of logistics). If this is the case, the customer will require keeping a certain level of inventory (inventory element of logistics). The transport provider and the customers will have to exchange information many times, even before start of the transport service. All supply chain and transport chain partners will require information as well. This is the information element of logistics. Let us see what some highly referred books in logistics field say.

Mangan *et al.* (2012, p.9) states that *Logistics involves getting* *--- the right product* *--- in the right way*	Rushton *et al.* (2009, p.6) explains that Logistics concerns *the efficient transfer of goods from the source of supply through the place of manufacture to the point of consumption in a*

--- in the right quantity and right quality *--- in the right place at the right time* *--- for the right customer at the right cost.*	*cost-effective way whilst providing an acceptable service to the customers.*

Langley et al. (2008 p. 7) notes that the companies seek to rationalise their global networks and ask such questions as the following:

- Where in the world should we source our materials and/or services?
- Where in the world should we manufacture or produce our products and/or services?
- Where in the world should we market and sell our products and/or services?
- Where in the world should we store and /or distribute our products?
- What global transportation alternatives should we consider?

From the above definitions of logistics, we understand important aspects of logistics to meet the demand of customers - shippers and consignees. As a rail freight professional, are you sure that the current rail freight service are able to meet the above mentioned aspects? The postgraduate course in Rail Freight and Logistics at Newcastle University, in particular the two modes: Freight Transport Logistics (University module reference MEC8033) and Multimodal Transport Policy and Practice University module reference MEC8034), is designed to prepare you to first to understand then to meet the global as well as local customers demand. The next section discusses how the teaching is performed; for example, discussion on a range of teaching methods, aims, contents, intended knowledge outcomes and intended skills outcomes; in Freight Transport Logistics module.

TEACHING IN FREIGHT TRANSPORT LOGISTICS MODULE

The **aim** of the teaching in Freight Transport Logistics module is to provide students with a comprehensive overview and understanding of the main issues, factors, challenges in offering and buying freight transport logistics services for global supply chain in an increasingly competitive market.

The **teaching methods** for this module combine traditional class room lectures, more discussion oriented small group teachings, independent study, field trip to logistics facility (e.g. warehouse activity), student-led group activity, policy seminars with invited speakers (practitioners), group and/or individual course work on a particular and recent topic/issue preparation, presentation and assessment.

One teaching method is not good enough to achieve an excellent level of learning and teaching. The **traditional classroom lecture** is a kind of essential element for teaching in such area as logistics. During the lecture, the students are first introduced and then explained many terminologies, definitions, issues with examples often accompanied by visual aids (e.g. power point presentation, video on logistics activities e.g. warehousing, port terminal operation etc.), to help students visualize an object or problem. The teaching in logistics

discipline is unique in the sense that many (my experience suggest most) students did not study or work in logistics or transport area before. So although they are studying at postgraduate level, their understanding is probably at the undergraduate level. As they are new to many terminologies, the lecture starts with some introductory sessions. Slowly it moves to in-depth explanation and discussion. The students are encouraged to ask questions or challenge the lectured idea or principle. But some students, with previous working and/or study background, are dis-benefited from this approach. As they know the terminologies and introductory issues and principles, they feel less benefited from such approach. At the beginning of the semester a quick survey to explore the students' background (working and study) in logistics can help to overcome such difficulty. At the end of the session, the students' opinion on the module reflects; as to what went well and not-well as well as what could be done to improve the students' learning experience, can help improve the teaching method for the next academic year. Generally most students express their satisfaction with this approach. Sharing teaching experience with peers is another way of improving teaching methods.

A **field trip to logistics facility**, for example visit to Teesport (UK) that has Tesco's central warehousing, is very helpful. This Tesco warehouse is highly automated. The studends appreciates highly such trip. The feedback on the field trip from the students suggests that visiting such logistics facility provides students an opportunity to compare and reflect on the classroom lectures and the activities in the practical world. Organising such event can be challenging due to for example, hiring bus, liaising with the logistics authority to fix a visit day and time.

Individual and group coursework on a particular topic benefits students in different ways. The students are given a number of topics from where they can opt one. For this, a general structure of the report is given at the beginning of the semester with time limit. The students are guided with possible study materials and sources of materials. The students is given a clear guideline as to what is expected; for example structure of the report, word limit, referencing style, in-depth discussion with cross references, analytical approach, use of graphs and figures, own critical thinking on the issue etc. They get an opportunity to study one topic in-depth reviewing relevant materials. Some opt to continue research work for MSc dissertation on the topic area. They also learn report-writing skills, as some have never produced such report before. The presentation in front of the peers gives them another way of learning quickly. They students can be involved in marking their peer's presentation. They can ask questions as well. This process has to be managed by the lecturer well to make it effective. The group course work has its merits such as teaching them working in a group (teamwork). But previous experience suggests that some students escape the course work by shifting the load to peers and there are some students who can't say 'no'.

Seminar session, on contemporary issues, with visiting scholars or practitioners (e.g. terminal operators, warehouse operator, trucking company manger) is another important way to teach students in freight transport logistics area. There are many important contemporary issues, example includes modal shift from road rail, alternative fuel vehicles for city logistics and, internalisation of external cost, resolving the problems of rail-interoperability in Europe.

As discussed before, as a first module in the postgraduate teaching in logistics area, the following **module content**, mostly with introductory issues, are taught:

- Principles of logistics – introduction, definitions, historical perspective, components of logistics, importance of logistics, logistics and distribution structure;
- Integrated system concept and integrated logistics, globalisation and international trade, logistics and supply chain management, competitive advantage through logistics and 'SCM';
- Channels of physical distribution, channel type and structure, channel selection criteria, alternative logistics service providers, advantage and disadvantage of own account transport service, advantage and disadvantage third party logistics service, international commercial terms (INCOTERMS);
- The importance of quality customer service, components of customer service, conceptual models of service quality, developing a customer service policy, levels of customer service, measuring customer service, the customer service explosion;
- Challenges for logistics, supply, distribution, retailing, internet and home shopping, securing issues versus efficient logistics, ecommerce;
- Logistics process, importance of logistics process, key logistics process, benchmarking, steps, format and approaches of benchmarking;
- Transport, modes of transport, operational factors, transport mode characteristics, advantage and disadvantages of different modes of transport, ISO containers, swap bodies;
- Green logistics, transferring freight to greener modes, city logistics, last mile distribution, citizen and customer demand;
- Fuel management for fleet managers and drivers; drivers training, drivers language
- Reverse logistics - why, waste production and management, examples of waste management and initiatives in different European cities.

The module content is **revised or updated** formally every 2/3 years, as the change in module content has to pass through some peer review process; for example explanation as to why the change is needed. But the individual lecture content is updated every year with the updates in the field. The lecture content is updated with latest research findings, as he teaching in this field is research led. For example, the European Commission has issued Fourth Railway Package in January 2013. A lecture on, for example, European freight transport policy, should reflect this change, if it is delivered in February or afterwards. So the lecturer has to be updated with such changes.

It is very important that mechanisms such as written examination, feedbacks (in classroom and exam - papers), assessment and feedbacks course work, are in place to ensure that at the end of the course the students understand and can explain other issues such as:

- Modern principles and requirements of freight transport, logistics and supply chain management;
- Integrated system concept of transport chain, logistics and supply chain management;
- Alternative channels of freight distributions; main/alternative actors of freight transport services;

- Customers of freight transport and logistics, knowing and meeting their requirements;
- Logistics process design and benchmarking logistics;
- Transport modes and their characteristics: which option best for what and why?
- Importance of green logistics and necessity of modal shift and city logistics;
- Contemporary challenges for transport and logistics service providers and users;

CONCLUSION

In **conclusion** the teaching method and content should be flexible and student need oriented. The teaching in logistics should provide the students with knowledge, skills and expertise so that they understand and evaluate total freight transport logistics systems and position of rail freight in the transport chain for modern supply chains. For students to be armed with the necessary expertise and skills, teaching methods employed have to designed in a way to enhance students' understanding of the system and more specifically that there are competitions and alternative options for the customers and the rail freight operators have to, first, understand and then to meet the requirements of freight transport logistics customers with the associated contemporary issues, factors and challenges related to freight transport and logistics. In addition students have to understand the principles for designing modern logistics process, performance evaluation, city logistics and last mile solutions in order to be well accepted by the industry. All the module content should be peer reviewed by industry experts and professional bodies such as the Chartered Institute of Logistics and Transport (CILT), European Intermodal Association (EIA), International Union for Road-Rail Combined Transport (UIRR) and the like.

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