
Learning at Work within the Ford Motor Company

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Liverpool John Moores University has established an academic framework based on a close working partnership between employers, employees and the University. The *Learning at Work Programme*, as it is called, allows for the development of individualised learning agreements tailored to meet the needs of the employer and the employee, but within a framework that is recognised within the academic community. The programme has been used within the Ford Motor Company on Merseyside to develop the knowledge and skills of managers who, at the same time, will qualify for a Master of Science in Manufacturing Management. The programme allows for the accreditation of prior experiential learning and in-company training and contains a substantial part of work-based learning. The curriculum and assessments are determined by senior staff within the company.

INTRODUCTION

The current interest in lifelong learning has focused attention on the ability (or otherwise) of higher education in the UK to provide flexible learning opportunities for employed persons. Such learners will almost always be studying part-time and we know that they require flexibility that is often beyond higher education's definition. They want to embark on a curriculum that is relevant to their needs as employees but particular to their stage of development as individuals; they want to undertake learning at times and in venues that suit their needs and at a pace that matches their career aspirations. They want their learning to be supported by their employers if at all possible, which invariably requires the need for a customised curriculum.

Higher education's response to individualised learning is usually to offer a range of options from which learners choose a subset. Most part-time programmes have to have a fixed teaching structure in order to make delivery economic, although major subjects such as law and business studies can sometimes recruit sufficient numbers to offer a variety of daytime and evening delivery. These arrangements partly meet the flexibility needs of learners but we are working against the background of an increasing reluctance of employers to release their employees to prescribed programmes, coupled with a tightening of budgets.

The situation, therefore, is critical for higher educa-

tion's commitment to providing lifelong learning opportunities. Liverpool John Moores University is situated in an area dominated by small to medium size companies with a poor record of training and the decision was taken to tackle the challenge of individualised learning head-on. The *Learning at Work Programme*, in which the starting point is *what would you like to learn and how can we help you achieve your objectives?* has been validated and is underway. From the position of an essentially empty curriculum, and by a process of negotiation, learning that has already been achieved is accredited and learners are helped to design their own programme within very broad parameters. Flexibility of learning is enabled by encouraging structured learning for credit within the workplace, although more formal learning at the University or at another provider is also offered. The employer is involved in both guiding and helping to assess the learner.

The basis of the learning is an individual *Learning Agreement*, validated for each learner by Liverpool John Moores University, which has to be approved also by the employer. The outcome of such learning can result in the achievement of a wide range of awards up to, and including, a Master's degree.

THE LEARNING AGREEMENT

Each employee enrolled on a *Learning at Work Programme* is taken through the preparation of their

Learning Agreement by staff from the University. The *Learning Agreement* is agreed by the university, the employee, and the organisation. A mentor within the employee's organisation is appointed to oversee his/her study. The employee also receives academic support from a university tutor.

Learning Agreements contain the following:

- Personal details including employment details.
- Area of study and expected award.
- Expected duration of study.
- Summary of prior learning, both certificated and experiential, backed up with evidence.
- Additional learning to be undertaken, which might include university modules of study, work-based learning, in-house training and/or other training, plus details of any dissertation to be undertaken.

The *Learning Agreement*, once completed, has to be agreed and signed off by the employee, in-company tutor, academic tutor and the *Learning at Work Programme* Manager based in the University.

The University has also set up a system for ensuring consistency of practice and levels of standard across the full range of subject disciplines. Any revisions to the *Learning Agreement* during the time period of study have to be agreed by all parties.

A MODEL FOR THE FORD MOTOR COMPANY

The *Learning at Work* framework was ideally suited to the needs of the Ford Motor Company on Merseyside. Ford saw the need to provide their managers with a range of additional knowledge and skills relevant to their job function, whilst at the same time fulfilling the need for their managers to be able to achieve a recognised qualification.

Seventeen managers were selected for the initial group, covering job functions ranging from personnel to production management. Their academic backgrounds vary from those that hold a first degree to those who have no formal qualifications. They all have one thing in common: they are all senior managers within the company and all have a good deal of experience in the automotive manufacturing industry. The title of the award was agreed as Manufacturing Management since this covered a wide range of knowledge and skills fulfilling the requirements of the individual managers.

The award was fixed at Master's level in order to be compatible with the level of learning required.

The first part of the programme concentrated on developing their individual learning agreements and building up their claim for credit through prior learning,

particularly experiential learning. It was also thought necessary to include some studies in research methodologies in order to prepare them for the dissertation which forms a major part of any UK Master's degree.

Following discussions with the Ford Motor Company and the managers participating in the programme, a range of learning was identified which covered the needs of all participants. Not every manager was required to study every module. Some opted to undertake work-based learning as an alternative. Subject experts within the Ford Motor Company worked closely with academics from the University to identify the curriculum and also the assessments, which were very much related to the needs of the Ford Motor Company. The range of taught modules identified include:

- Tools for Total Quality
- Management for Industry
- Finance for Industry
- Ergonomics
- Lean Production
- Materials Planning and Logistics

In addition, each participant has to undertake a dissertation which is very much work-based and related to the manager's job function.

The taught modules are delivered on site at the Halewood Plant on Merseyside on two evenings per week, over three twelve week blocks. Those that are undertaking work-based learning have the support not only of their in-company mentor, but also of an academic expert from the University. The present group are six months into the programme and we anticipate the first of them to complete the process in May 1999.

CONCLUSIONS

The learning needs of an employed person differ from those of a standard full-time student. They need a flexible approach to learning in terms of the timing of the learning, the pace of the learning and the modes of learning. The curriculum has to be relevant to both the employee and the employer.

In order to engage an employed person in lifelong learning it is important to create the right environment. The learning needs to be a delightful experience for the employee, who needs the support of their employer.

The learning needs of the employee can be catered for through a negotiated learning agreement between the employee, employer and university. The agreement can include, for the accreditation of the employees, prior learning both certificated and experiential.

Experiential learning has to be couched in recognisable academic learning outcomes that can be meas-

ured both in terms of volume and level. In order to be accredited the experiential learning has to be supported by evidence of the learning gained.

BIOGRAPHIES



Professor Neil Barlow occupies the Ford Chair in Engineering at Liverpool John Moores University. He holds the position of Assistant Provost, taking responsibility for Enterprise and Technology Transfer across the University. He is a Fellow of the UK Institution of Mechanical Engineers and

a member of the UK Steering Committee for the Virtual Automotive University and College. He is actively engaged in a number of initiatives in the area of engineering education and has developed a number of novel programmes of learning to meet the needs of the engineering industries.



Dr Andrew Lyons has an MEng in Mechanical Engineering and a PhD in Manufacturing Systems from the University of Liverpool. He has been a lecturer in Manufacturing Systems and Management at Liverpool John Moores University since 1993.

In addition to his involvement in the design and delivery of training and education programmes to companies within the automotive sector, Dr Lyons has a range of research interests, including advanced manufacturing planning and control systems, visual interactive modelling and simulation of manufacturing systems and systems analysis and the use of intelligent knowledge-based systems in manufacturing.



Dr Phil Margham is Head of the Academic Development Unit at Liverpool John Moores University. He was educated at Manchester and Edinburgh Universities, and emerged as an applied geneticist with a research interest in the genetics of insecticide resistance.

After a successful career in biology programme management at Liverpool Polytechnic (later Liverpool John Moores University), he switched roles in 1989 to head a team responsible for the introduction of a University-wide modular structure, the Integrated Credit Scheme. Once the modular framework had been fully embedded, he branched out into a number of curricular areas, all related to enhancing the employability of JMU students. He has launched several initiatives, including: systems and programmes for learning in the workplace, identification and assessment of transferable skills, web-page information sourcing and the electronic recording of skills.

Computers in Electrical Engineering Education - Research, Development and Application

by Zenon J. Pudlowski et al

This book is the first in the new Monash Engineering Education Series established by the UNESCO International Centre for Engineering Education (UICEE) at Monash University, Australia. This series adds a new dimension to Australian engineering education by creating a source of information on research and development in engineering and technology education. The series opens up tremendous opportunities for engineering educators to share their achievements with local and international colleagues.

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