The use of E-Learning in the work-places in the Public Sector

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Abstract

This paper will discuss the implication of e-learning on the public sectors. A survey was carried out at a London local authority through June to August 2001. The issue was to discover the answer to two questions, (i) 'Can e-learning methods be successfully integrated into existing 'traditional' methods of training in the workplace?' and (ii), 'Can e-learning replace 'traditional' methods of training completely? It is also of interest to discover which areas of learning would be the most immediately acceptable for use in an e-learning application of training in the work environment at the local authority. The need was to also ascertain the extent to which e-learning has already been adopted into the training environment in the workplace, if at all and also to understand how e-learning is currently perceived by the employees' at the local authority.

Literature Review

Computer Based Training (CBT) can be identified as the beginning of e-learning. CBT was the first real inroad into the empowerment of the learner to study with the aid of a computer, at a time and place when convenient for them to do so. Rosenberg (2001) describes the difficulties encountered when early efforts to load training applications on mainframe computers in the 1970's gave marginal successful results. With the advent of Personal Computers (PC's) in the late 1970's and early 1980's more advances were made. Marc goes on to say that due to the vast differences at that time between the specifications of hardware, for example, Apple and IBM and also the differences in programming languages, the advances were short lived. At the beginning CBT programs were designed in a way that they were no more than text books copied onto a CD ROM and this made them in many cases deadly dull to use. Slow computer-processing times and small hard drives together with poor graphics did nothing to improve the situation. It wasn't until the 1990's, and the advent of faster processing times and larger hard drives, was it possible to develop CBT programmes, which would really capture the interest and the imagination of the learner.

It is the move to Server Networked computers with Local Area Networks (LAN) and Wide Area Networks (WAN) that has enabled the computer user to copy small parts of much larger information onto computer terminal to work on. This new technology has enabled users to access a much wider scope of information at any one time.

Server Networks have also enabled computer users to connect via a telecommunications link to a much wider area network the 'World Wide Web'. This total 'connectivity' has now prompted the need for sophisticated training programmes that can engage the learner and enable them to move from one Internet link to one another, incorporating a wealth of detailed computer graphics, as well as video capture and audio instruction too. Learners can discuss issues as a group synchronously via video conferencing systems with live images and asynchronously via e-mail using 'chat rooms' and electronic notice boards. Elearnity, an e-learning consultancy based, published in white paper Executive Summary (eLearnity, 2000) list the following essentials for the e-learning mix as:

- Good quality of learning materials
- Greater access for the student

- A roadmap for developing an e-learning strategy
- A combination of appropriate supporting content
- A combination of learning services and technology to provide high value 'blended' learning 'anytime, anyplace'.

This concept of a 'blended' way of studying using a multi-medium approach that encompasses various elements such a Instructor led Training (ILT) together with downloadable Internet material. Appropriate Internet links plus synchronous and asynchronous discussion groups.
Martyn Sloman in his book by saying that there are two related developments that are combining to demand a new approach to the effective delivery of training in organisations. Both are a consequence of the information-rich connected economy. 'The first is a step-change in the capability and potential of technology-based training. The second is a shifting business model; the way that organisations compete and society advances'.
Martyn's theory draws on other connectivity milestone in business, for example, Just-in-time (JIT); manufacturing activities that continuously revise the manufacturing process to utilize stock and labour as and when needed. Bicheno et al (1997). JIT relies heavily on the connectivity and continuous flow of up-to-date information via telecommunications links. Sloman's theory of a 'Connected Economy' also fits well into the strategic theories of and the strategic business environment.
In recent years the concept of connectivity has used Internet and digital technology to transform the way in which we work and learn. 'Hotdesking' and homeworking are now widely in use and as a result fewer overheads are incurred i.e. utility costs, insurance costs, building maintenance and rental costs. Environmental issues, less pollution because of less travel and time management issues due to less travel time can been counter.
In this new dynamic work environment learning will need to adapt and supply a method of tuition that suits this new dynamic, empowered, but in many cases remote, workforce.
The New Careers, Arthur et al (1999) it describes how post Second World War organisations have slowly moved away from the traditional 'static' relationships between employer and employee with a shift in the business model that is far more dynamic and able to adapt to the increased competition both at home and overseas. Employees' now find 'Life Long Learning' is now important to them to help secure continuous employment in an atmosphere of company restructures and downsizing.

Method
The main investigation was conducted part-time over a six week period in July and August 2001, with excellent co-operation from the staff at a London local authority.
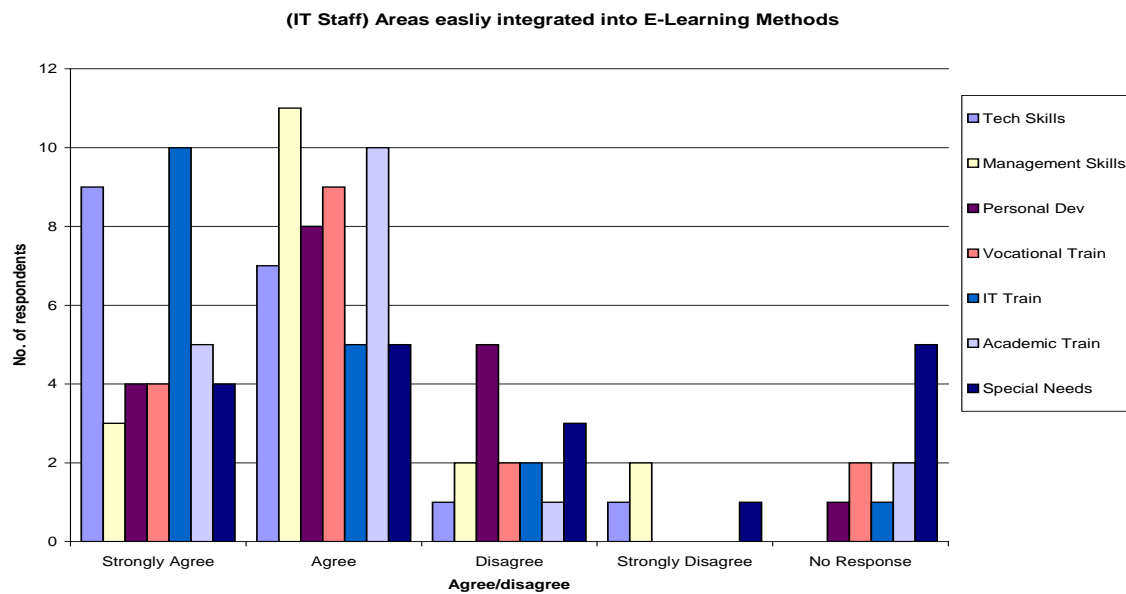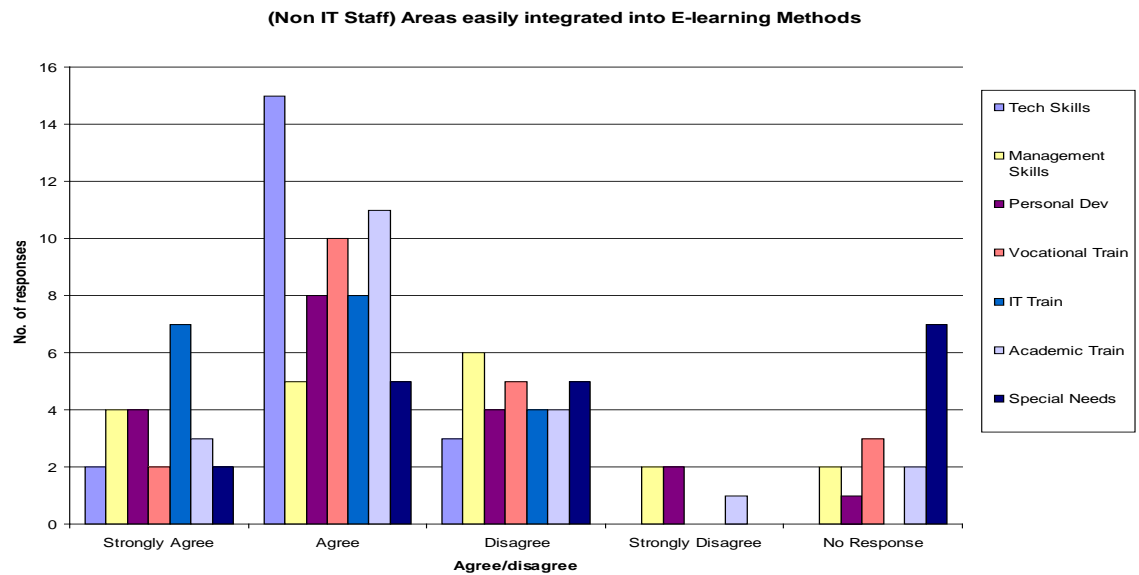For secondary data research relevant articles, research studies, recently written books and notes gathered at various national seminars on the subject of e-learning have been used. There is an abundance of secondary data becoming available about e-learning, however, it must be recognized that it can be biased and not necessarily proven as yet. Therefore, it is a desire with this project report to ensure that any secondary data used is from reliable sources and of a high standard and that it has the additional benefit of being mostly current information.
The primary research data consists of a questionnaire survey 'delivery and collection' by hand at the time of completion, this ensured the maximum response level. Respondents for the survey came from various departments, IT and non- IT, within the same organisation, and all respondents are of varying grade, age, gender, length of service and also ethnicity.

The results of questionnaire survey were shown. There was approximately a 75% response rate. The responses were shown as a Bar charts to display the data were chosen to explore and understand the results for each of the variables which are of a discrete type.

Question: 1

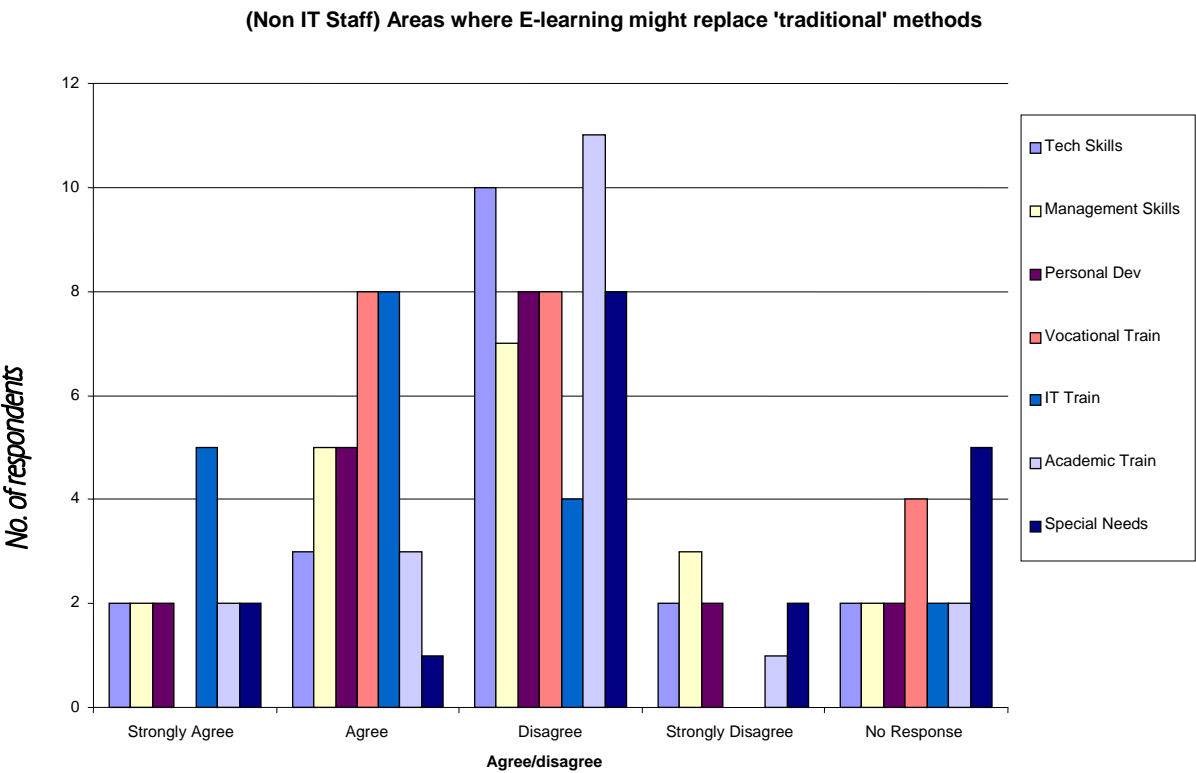### Which of the following areas do you feel E-learning can be integrated most easily into existing training offered?

(Non IT Staff) Areas easily integrated into E-learning Methods

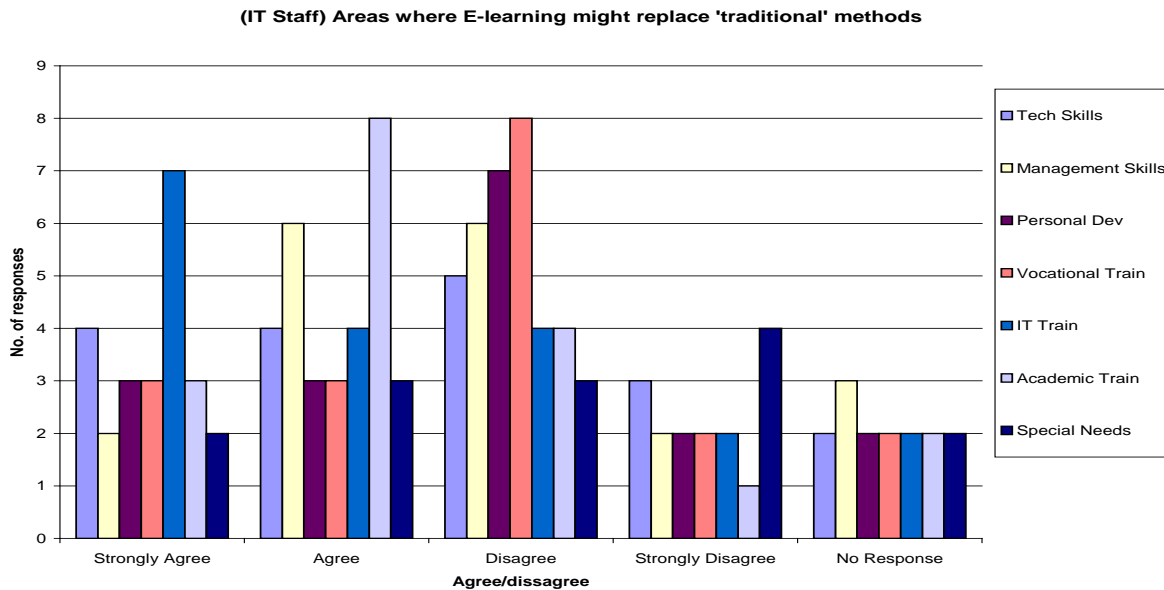**(IT Staff) Areas easliy integrated into E-Learning Methods**

The charts generated for question 1. Show that IT staff are fairly agreeable to any kind of e-learning integration into existing training methods but for the exception of Personal Development where they seem to hold a view that balances itself out between agreement and disagreement. The surprise was the lack of response for the variable 'Special Needs'. This question seemed to 'fox' the population and it isn't clear to understand why? At the local authority the mission statement clearly states that it has an equal opportunities policy. Therefore one would have expected staff to have an active opinion in this area.

Question: 2

Which of the following areas do you feel E-learning might replace existing 'traditional' training methods completely?

(Non IT Staff) Areas where E-learning might replace 'traditional' methods

Bar chart titled "(Non IT Staff) Areas where E-learning might replace 'traditional' methods". Y-axis: No. of respondents (0 to 12). X-axis: Agree/disagree categories (Strongly Agree, Agree, Disagree, Strongly Disagree, No Response). Legend series: Tech Skills, Management Skills, Personal Dev, Vocational Train, IT Train, Academic Train, Special Needs.

Question 2 demonstrates a significant leap with IT staff indicating that Academic Skills training could move over to e-learning methods completely with over 80% of the population of IT staff agreeing to this. Again, IT was another high scorer with over 70% of the population strongly agreeing that IT training could be completely put over to e-learning methods. There was a level score of 60% both for and against putting Management Skills over to e-learning methods of training completely. Vocational Skills and Personal Development Skills training was not rated by the IT staff as being adaptable for the e-learning medium. The chart shows a clear statement by registering approximately 80% showing disagreement with and kind of change over to e-learning methods with Personal Development and nearer 90% with Vocational Skills.It is not surprising that Special Needs scored a reasonably low score for complete adaptation to e-learning methods. That demonstrates that generally there is an understanding that Special Needs will need an element of face to face human interaction.

Non-IT staff again agreed that IT training would be a good contender for a total shift to e-learning methods of training, with approximately 70% of those surveyed in that sample agreeing. However, non-IT staff showed a 70% agreement for Vocational Skills training to completely change over to e-learning methods of training.

Question: 3

From the training methods you have used, which of these did you find effective/not as effective? Please select all that apply.

(Non-IT Staff) Training methods used Effective/Not as effective

(IT Staff) Training methods used Effective/Not as Effective
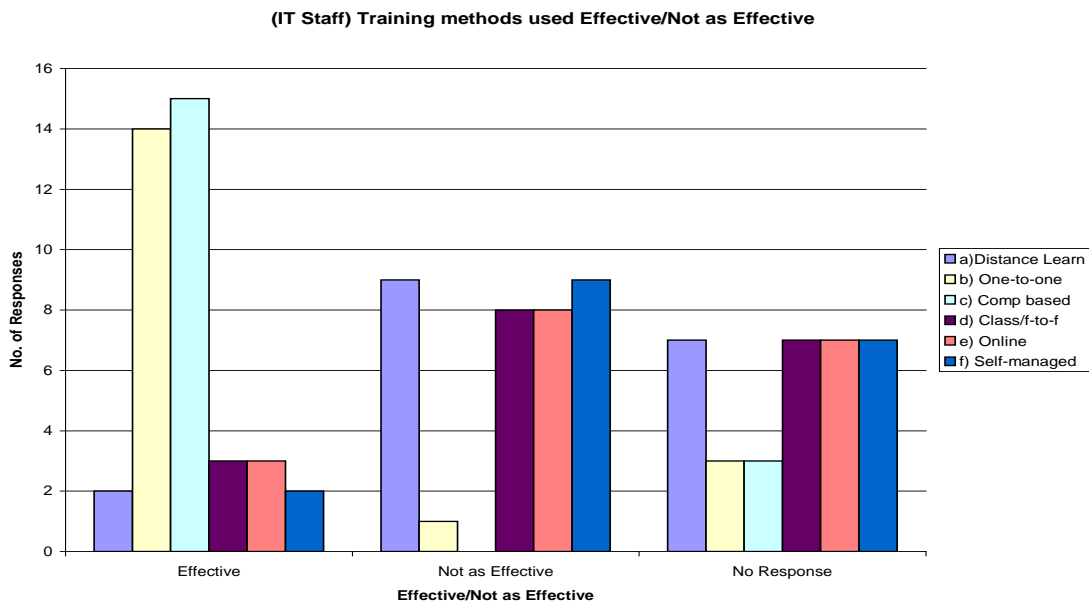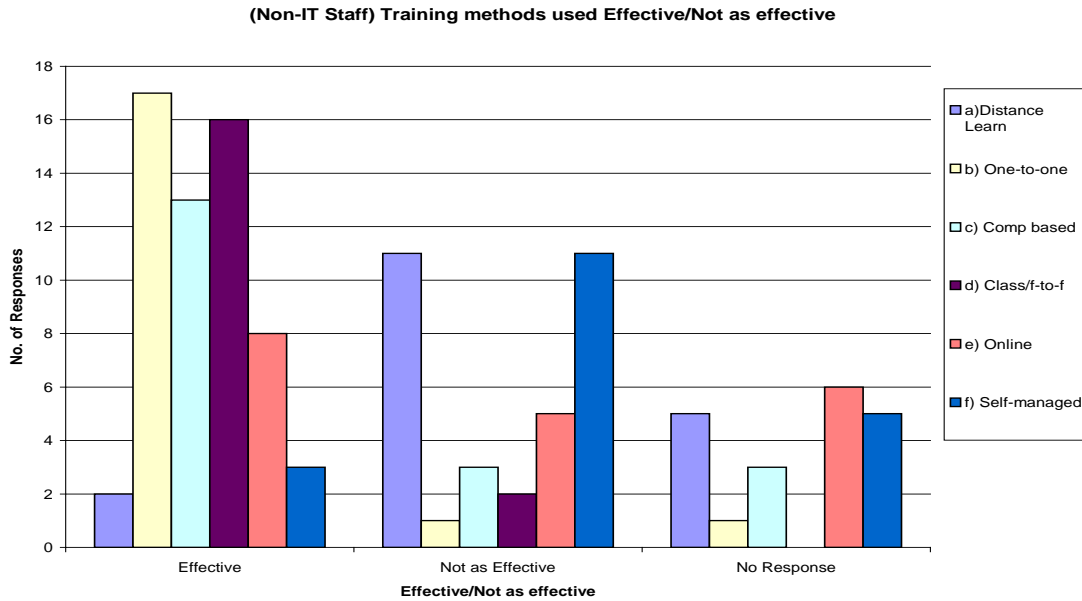
Most of the data collected for question 3. came in as expected of both of the samples with high scores of effectiveness for areas such as One-to-one training, Classroom – face-to-face. What was unexpected however, was the result from the IT staff sample and their resounding opinion

that computer based methods of training are more effective that Classroom-face-to-face. In light of this result it is perhaps worth pondering that this particular result sheds some light on the reasons why people are drawn to particular careers and tend to stay linked to those careers for their working lives. Perhaps those who work in IT find it naturally easier and more comfortable to absorb instruction from IT based methods of tuition than those who do not come into contact with computers every day of their working lives the results from question 3 put forward the theory that career actors involved in a certain area are comfortable in that area of work and respond to other related elements in a positive way.

Conclusions

The project described the implication of e-learning on the public sector. The results in this work obtained from the questionnaire survey and suggested that it will be IT training that will be the first to have an element of e-learning attached to it. However, the survey also indicates that other areas of study, for example Academic training and vocational training do not seem ready for e-learning integration at present at the local authority. This is not the case globally however, and there is a substantial amount of integrated e-learning training materials already being used in sales, Airline and Soft Skills training.

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