

Curriculum Evaluation of Technical Vocational
Training

A Case Study

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Abstract

This thesis is a Case Study of a professional technical training programme designed for an Executive Agency of a major government department. The purpose was to explore the structure, strengths and weaknesses of the programme and to put forward useful suggestions for improvement. The personnel recruited into the programme are experienced technical specialists, often accustomed to the exercise of considerable responsibility and authority, earlier in their careers. The programme is intended to impart the extra skills required in their new role. There is special emphasis on assessment of student learning and curriculum evaluation and the possible confusion between the two terms. The problem of Outcomes and how the competency of the trainees is to be judged is considered. Also considered are learning styles, content and the teaching environment.

Research data is included, collected from three primary and one secondary source. The primary sources consist of two questionnaires, one on Assessment of Student Learning and the other on Curriculum Evaluation. The results from these were analysed and from this data, the questions for the Interview Schedules were developed. They were designed to provide clarification or additional data where this was required. This Interview Schedule was structured as a series of open-ended questions, allowing further investigation as necessary.

The data has been presented in an easily understood format, making use of tables and pie charts. Links have been established between the existing theories on adult further education and the research findings. Conclusions and suggestions for future improvement have been made.

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KG

Barton on Sea

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Chapter One

Introduction

‘Only when we know a little do we know anything; doubt grows with knowledge‘

(Johann Wolfgang von Goethe, 1749 - 1832 German theorist and writer)

This thesis entitled ‘Curriculum Evaluation of Technical Vocational Training. A Case Study’, is a study of a professional training programme designed for experienced technical staff employed as Marine Surveyors by the Maritime and Coastguard Agency (MCA), an Executive Agency of the Department for Transport. The emphasis in this enquiry is on evaluation, by the learners and others, of all aspects of the training curriculum.

This Introduction, details the two vocational training programmes that are the subject of the Case Study and explores the apparent strengths and weaknesses of each scheme. It also considers, for completeness, the Adult Further Education system in the United Kingdom, with particular reference to the role of the various regulating and qualification awarding bodies. This is important as it will aid understanding when discussing the Customised Awards scheme later in the work. This is followed by a Literature Search (Chapter Two) to explore the contributions that prominent authorities have made to the theory and practice of curriculum evaluation. The Review of the Literature forms an important part of the thesis as it establishes the relationship between the Theories (Chapter Two), Methodology Employed (Chapter Three) and the Research Findings (Chapter Five).

The thesis seeks to answer four questions, which fall naturally into two groups, those relating to assessment of students learning and others relating to curriculum evaluation.

No. 1 “Does the existing method of assessment of student learning provide meaningful information about the learning that has taken place?” and

No.2 “Does the existing method of evaluation provide meaningful information about the curriculum?”

No.3 “What improvements in assessment of students learning, might be made in the future?” and

No.4 “Is there a better way of evaluating the effectiveness of the delivered training?”

In the search for answers to these questions, it is intended to focus on four areas :-

1. A critical examination of the perceived strengths and weaknesses of the two vocational training schemes, designed for the Maritime and Coastguard Agency (MCA), with particular reference to assessment of student learning and curriculum evaluation. The perceived strengths and weaknesses are those that have become apparent as a result of analysis of operational experience , and, of course, feedback and periodic course review meetings.
2. Research into various methods of assessment of student learning and curriculum evaluation, with the aim of identifying methods that are appropriate for a professional training programme.
3. Research into students’ attitudes towards assessment of student learning and curriculum evaluation, and
4. Suggested alterations that would improve the process of assessment of student learning and curriculum evaluation.

It should be noted that this is primarily a qualitative study and when quantitative data is used it has been developed from qualitative data. Data from questionnaires and

interviews have been given a quantitative value, usually expressed as percentages, but it must be remembered that the source data embodies an element of subjectivity. This is because any data collected will have a degree of error and quantitative data is dependent on such factors as sample size and choice of source, while qualitative data collection can be influenced by many factors such as the personality of the interviewer, the choice and design of the questions and the amount of trust in each other by the participants. This is of concern in question design, as there is a very real possibility of developing material, which leads or indicates to the recipient the direction that the interviewer or questionnaire designer hopes the replies will take. Good practice requires that the material is trialed before general use, as other readers may develop interpretations unintended by the author.

In any research programme, two concepts critical to a successful outcome are validity and reliability and are explored next. Other relevant concepts, considered in Chapter Two, are consistency, transparency, fairness, efficiency, manageability and effectiveness of feedback, but with the validity of the research being of prime importance (Pierre, 2003). A clear understanding of these concepts is necessary when used in the context of education and this thesis.

One definition of validity is that it is *'essentially a demonstration that a particular instrument in fact measures what it purports to measure'* (Cohen et al 2004.113) It can also be described as *'having some foundation, based on truth'* (Collins, 2006, 1772), that is, it reflects, as close as possible, the actual situation. It is impossible to ensure total validity as each method of data gathering has its own inherent flaws even if only those resulting from the fallible nature of the human beings involved. However, adopting a

multi-method approach, often referred to as triangulation, that is using two or more methods and sources, will enable the researcher to reduce the effects of these variations. The concept of triangulation embraces a selection of methods such as investigator, theory, environmental and methodology triangulation. (Guion, 2002)

1. The **investigator method** employs different researchers in the investigation of the same subjects; this has the effect of removing any conscious or unconscious bias that may exist in the original participant.
2. **Theory triangulation method** is a variation of the investigator method but using professionals from different disciplines who, it might be expected, would not be burdened by preconceived ideas from other disciplines. (However, remembering that this is a limited research project there are resource constraints limiting the use of both these options.)
3. **Environmental techniques** involve conducting the data collection at different times and places removing influences specific to any time or place. Again there are time and resource limitations on what can be achieved.
4. The **methodological method** involves the use of multiple qualitative and/or quantitative data collection with the aim of comparing the results; measures of agreement or at least close correlation would indicate that the results have established validity. In a limited way this is one of the methods used in the data collection and analysis for this thesis.
5. **Time triangulation** takes into account the possibility that there will be changes in the data caused by social change with time. Validation is achieved by repeating the same research at one or more intervals over an extended period, and in so doing, remove or averaging out any errors induced by the passage of
ing

6. **Space triangulation**, on the other hand, counters the possible distortion of research collected across a culture or sub-culture by widening the cultural foundations of the research. Both these two methods would be appropriate to long-term studies but are not realistic for the relatively basic research being conducted for this thesis.
7. Lastly there is **data triangulation** which is another method used in this thesis. This involves comparing data from different sources, both primary and secondary, as a crosscheck on the premise that the greater variety of sources used to collect the same data, then the more likely it is that the inevitable variations in data sets will average out, leaving a set of data with as little error as possible. However it may not be possible to actually quantify the error. (Cohen, 2000,105)

Reliability, a concern in all research, is indicated by how readily it is possible to reproduce the research data. A single project may produce certain findings, which can only be considered reliable if they can be replicated by similar studies. However, in the circumstances in which this research has been undertaken, there could be difficulties in achieving exact reproduction, as personalities, job profiles and individual experience will change with time and all are factors that could, and do, have an influence on the final result. The collection of quality data requires that as much as possible is done to identify and minimise the effect of the factors mentioned.

While this part of the discussion is centred on definitions, there are two other terms that appear to be used without a clear understanding of their exact meaning. These are assessment and evaluation and indeed they are interlinked but frequently used in the

wrong context. In brief, assessment refers to a judgement of the individuals' learning and evaluation is concerned with the review of the curriculum as a whole, a small part of which includes assessment. In order to avoid confusion and where appropriate, this thesis will refer to assessment as assessment of student learning and evaluation as curriculum evaluation.

Assessment

There is a further distinction that can be drawn, that is between *modes* and the *purpose* of assessments. Confusion can occur when attempting to define the point of separation between the two. Essentially *modes* refers to the method employed gathering the information with specific reference to concepts of reliability and validity. Criteria and norm referencing are examples of modes of assessment in that they establish the framework within which the information is gathered. The *purpose* refers to issues in connection with the gathering of the information required, that is the summative and formative process.

Assessment is, in the main, a process designed to identify strengths and a weakness in a student's learning. It relates to the individual and is not designed to gauge if a particular course or event is 'fit for purpose', that is the function of evaluation.

Assessment is a value-free ascertainment of the extent to which objectives determined at the outset of a programme have been attained by participants. Assessment of these objectives requires no value judgement as to the worthwhileness. It is simply a non-judgemental checking as to whether or not certain purposes have been attained (Brookfield, 2001,264).

As a further refinement, assessment can be divided into two separate but related processes, depending on the purpose, known as formative and summative.

The formative assessment process can be described as the gathering of information from many different and diverse sources, with the aim of developing an appreciation of a student's learning. Included in this will be an appreciation of the learner's understanding of, and ability to use, the knowledge gained. It is conducted during the learning and seeks to identify the extent of progress being made.

Summative assessment, also termed 'assessment of learning', is distinct from formative, in that it occurs at the end of the educational event and measures, or at least attempts to measure, the learning achieved against set educational outcomes. The criteria should specify the required measure, which could consist of a pass/fail, numerical mark, grade or the alternative National Vocational Qualification (NVQ) style of 'competent' or 'not yet competent'. This latter is not without critics as with this declaration there is no indication how proficient the student may be at the specific task. These measures should have been developed with regard to not only the aims and objectives of the training but also reflect the professional standards of those involved. A variation on this form of assessment is that conducted by competition. This method is appropriate in cases where there is no restriction on the number of successful candidates, such as the qualifying examination for membership of an professional institute e.g. the Institute of Chartered Shipbrokers. In this instance the only restriction is the ability to gain sufficient marks to gain the predetermined pass mark.

Criterion referencing involves the measuring of a student's performance against agreed criteria or standards. However, this does raise a problem as it may involve subjective judgement by an assessor with associated strengths and weaknesses. Much depends on the care that has been taken in the development of the standard and the associated

outcomes. A major problem occurs if the criteria are too loosely drafted, often a cause of considerable ambiguity of meaning and possibly of intent. The resulting differences in interpretation, by different assessors, and subsequent possible variations in standards, leaves open the possibility of appeals with the associated costs. As a result, the validity and reliability of the decisions can be called into doubt. On the other hand, should the criteria be too prescriptive, the assessor has no opportunity to exercise professional judgement. However, if the development of the criteria has resulted in a balanced approach, the main strength is that judgement can be exercised. In addition, maintenance of the standard requires professionally trained assessors who are capable of making and justifying assessment decisions.

Another approach to assessment is norm referencing, used in the context of examinations such as the General Certificate of Secondary Education (GCSE). This allows a given percentage of the candidates to pass, the exact distribution of results varying slightly from year to year, but with the proviso that there is a level below which no candidate will be accepted or granted an award. A restricting factor can also be the number of student places available at any one time. This is not measured against a specific external level criteria but against the norm for the student body as a whole, producing a system where the level of achievement will change from year to year as the standard of the student body varies. There are other variations on norm referencing assessment that should be mentioned, such as self-assessment which is self-explanatory; diagnostic assessment where the learners' skills are identified and from which, a development programme can be designed and future-looking assessment where the learner takes a hypothetical position at some point in the future and considers the relevant learning requirements to

reach that position. However it must be remembered that these norms are highly individualistic and will vary from person to person.

Assessments can be further sub-divided into two distinctly different forms, either objective or subjective, with the difference being best illustrated when assessing the answers to a series of set questions. The objective assessment requires a clear and definitive response, for example the correct selection from multi-choice or true/false questions. A subjective assessment, conducted by either the student, assessor or both, on the other hand, is used where there is no definite, clear cut response but there may be several answers, each equally valid, resulting from the exercise of expert knowledge or professional judgement. Often a blend of objective and subjective assessment will be used in all but the simplest of situations.

Evaluation

The other important concept considered in this thesis is evaluation, which in the educational context, is the process of using all the available information, to determine if the training event is 'fit for purpose'. The starting point would be to determine that the Objectives or Outcomes reflect the needs of both the individual and the organisation. It is suggested that these two needs are not necessarily co-incident and priority would normally be given to the requirements of those funding the training e.g. the employer. Next, would be to ensure that the training delivery reflects the stated Aims and Objectives, which is not always a straightforward matter to achieve, and lies at the very centre of the evaluation process. There are many possible methods that can be employed to collect curriculum evaluation data, the one in common use is the Course Evaluation Form. Occasionally it is possible to verbally debrief a course and this can be particularly

useful for the initial course of a series, one that is provided infrequently or where there have been major changes. However, personal experience has shown that this is not always a useful or necessarily reliable form of feedback, as the comments received may well reflect the student's attitude to matters other than those related to the training event. Such aspects as domestic circumstances, willingness or not to attend, interest in the subject and preconceived ideas both of the subject and the trainers involved, can influence the comments made.

One should not lose sight of the fact that one of the main reasons for conducting evaluation is to secure value for money. Training is expensive. In any well-ordered organisation, there should be a method in place which seeks to identify, and then to justify, the expenditure involved in providing training, whether it is the basic, advanced or updating provision. The accuracy to which this expenditure is calculated depends on the individual needs of the organisation concerned and the availability, relevance and quality of the data requested. Organisations often find that either they have collected the information for which they have no immediate use, or they have needs but are finding that they do not have the systems in place to produce the required information. The direct costs in wages, course fees, travel and other associated items are easy to quantify. The calculation of total expenditure becomes more subjective when opportunity costs are included. These are indirect costs incurred, when using other resources to undertake the work that staff under training would otherwise be doing. Should it be desired to achieve a measure of the benefits of the training, it would be necessary to make some allowance on the plus side to cover increased productivity, reduced complaints and staff errors together with increased customer satisfaction. Some organisations will attempt to develop the calculations a stage further to establish a Return-on-Investment (ROI). This is a figure

almost impossible to determine with any accuracy, as there is no agreed formula with which to eliminate the many variables involved. The organisation has to decide for itself, which inputs are considered important and assign values to those inputs to calculate a figure for the ROI. (Shepherd. 1999) There are so many estimates involved, that the final result can only be regarded as establishing a baseline from which subsequent values can be taken, ending with a comparison rather than a definitive result. This whole area touches on Human Capital Theory, which regards people as a valuable resource to be safeguarded and supported by investment, as would apply to any other form of capital assets.

Case Study

The organisation whose professional training is being used as a case study is the Maritime and Coastguard Agency (MCA) a medium-sized executive agency of the Department for Transport, a major government department dealing with most aspects of the country's maritime transport interests. It employs approximately eleven hundred and fifty full-time staff, at locations around the coasts of the United Kingdom and at Headquarters. The personnel fall into three distinct groups reflecting the type of work being undertaken.

The first is a non-uniform group, (Group A) actively engaged in certification, survey, inspection and certification of commercial vessels and their crews. Members of this group are recruited from experienced, qualified, industry professionals and carry out fieldwork, often in a solo capacity. This work is mainly carried out on vessels crewed by non United Kingdom seafarers. They are, in the main, accustomed to the exercise of considerable responsibility, both in their past and present employment. Consequently,

care has to be taken to create a safe learning environment, avoiding one that could be construed as a challenge to these levels of professional knowledge and experience, which it is acknowledged are often considerable. This sense of challenge could well create a negative attitude, which would form a barrier detrimental to the learning and assessment process. These personnel are based in eighteen separate offices across the country, which operate as semi-autonomous units, but report to Area Operations Managers (Survey) in the three operational regions. These are defined as a) East of England, covering an area east of a line from west of Southampton to the England/ Scotland border b) Wales and West of England, covering the western side of England and Wales and c) Scotland and Northern Ireland, which takes in the whole of Scotland and the province of Northern Ireland. They, in turn, are supported by colleagues in Headquarters, based in the South of England.

A second group (Group B) are uniformed Coastguards, who mainly operate from nineteen operation rooms, again geographically dispersed, co-ordinating search and rescue mainly, in the maritime environment. A small number work independently as Sector Officers, charged with the organisation and training of the Coast Rescue Officers, a force of three thousand volunteers based on Sector Offices sited in coastal locations. Members of this grouping are recruited both with and without industrial experience and are then trained to carry out the specific tasks for which they are employed. They are required to pass an Assessment Board and are then granted nine months probationary period of employment. These two groups form the Operations Directorate, under the control of the Director of Operations, who is assisted by a Deputy Director of Operations. A third group (Group C) provide essential support functions, such as Human Resources, Estates, Finance and Procurement based at Headquarters, and Administration backup at

both Headquarters and in various offices. It is the assessment and evaluation of technical training for Group A that is the main research interest in this thesis, but the findings will also benefit the provision of training for the other two groups.

The organisation and delivery of all training, not just of a technical nature, is the responsibility of Human Resources Development (HRD), which together with Human Resources Management (HRM), form the Human Resources Branch of the organisation. In order to reflect changing attitudes and priorities, the name was changed in March, 2007 to Learning and Development Branch, based at a dedicated Training Centre on the South Coast of England. Funding is provided by means of a separate training budget, based on detailed estimates of the training needs for the forthcoming twelve months. The identification of the actual need is achieved in several different ways. A small but important input originates from the Executive Board's implementation of central government policy such as the implementation of European Union directives that affect the shipping industry. The risks mentioned are those to the body corporate and are associated with potential harm from a financial, commercial or reputation source. Two of the current risks entered on the Risk Register refer to the failure to train people properly for the tasks they are employed to undertake. An additional small, but equally important input, results from both formal and informal staff discussions on future developments in the industry. These are conducted whenever staff members gather for training events or routine office meetings. However, the majority of the identified training needs result from a system of Personal Development Plans (PDP). These are completed annually, in conjunction with Line Management and are an integral part of the Personnel Performance Plan (PPP), which takes into consideration both personnel and business training requirements. In order to keep records relevant and current, the PDP's are reviewed after

six months and any updates sent to the Training Centre for the necessary action. The PDP requests also incorporate the requirements of the structured training schemes, at present in place.

The training of recruits in the group being considered (Group A) has been considered unsatisfactory in recent years. This was because there was no central organisation responsible for the training of new entrants to a common standard. A situation had evolved whereby each region and often each office trained the new entrants in the way that was thought appropriate to the type of work being undertaken in that area. That is not to say that such training was unsatisfactory because anecdotal evidence would suggest that it was often satisfactory. The major fault lay in the fact that there was no common standard applied, with the majority of training being in the form of watching and learning, often resulting in the perpetuation of bad or incorrect practice.

Initially a system that was used over many years required the trainee to spend long periods working with various departments in Headquarters, then situated at the centre of the shipping industry in London, shadowing the work of the relevant technical experts. There would appear to be no central records kept of this activity and the individual retained a work book as a personal record, rather than through any official requirement. It is only the longer serving staff who might have retained these records. A critical part of the training involved the research necessary to answer a series of in-depth questions. The whole process became known as the 'confirmatory system' regarded by some as excellent and by others as far less so, depending on the degree of encouragement, commitment and support offered at the time. Critical to the success of the system was the rigour involved in the research involved and the subsequent assessment of the trainees

learning. Great emphasis was placed on the ability to know, remember and understand the not inconsiderable volume of legislation then in place. This method was appropriate for the time, which was up to the mid-1970s, considering both the slow pace of change in the technical and legal environment, and the expert advice readily available from Headquarters.

However, the rapid advance of shipping technology meant that this state of affairs was about to change for good. Significant regulatory changes on the international scene were being stimulated by the growing influence of the International Maritime Organisation (IMO), an agency of the United Nations, and the increasing interest of the European Union in maritime affairs. Coincidental with this was a period of internal organisational change, with responsibility moving from direct control by a Government Department to the creation of an Executive Agency, during which the training function was neglected. It may be that this was not intentional, but resulted from the allocation of low management priorities, although there is no evidence to support this supposition. Recently this situation was recognised, by management, as being unsustainable in the longer term and steps were taken to rectify the situation. The MCA Training Centre was charged with the task of investigating the situation and, if necessary, designing an alternative programme. It was soon apparent, to training staff, that to revive the previous scheme was no longer practicable due to rapidly changing circumstances. There was no longer the pool of subject experts in Headquarters, as much of the specialist technical work had been contracted out to the Classification Societies (IACS, 2004) which, together with the use of consultants has resulted in the loss of 'in-house' expertise. All these factors rendered the confirmatory system, in its original form no longer 'fit for purpose'. Therefore action was taken to develop a workable scheme that would meet the requirements of the Agency

and be fit for the twenty-first century, referred to in this thesis as the 2006 Scheme. However, no sooner had this scheme been introduced, than a policy decision was made by the MCA Executive Board to seek external accreditation for all the organization's technical training. Until that time all training was developed 'in-house' to Agency requirements with no direct reference to outside bodies. Indeed, for many years the Agency itself was, and still is, the national examining and qualification awarding body for the UK's internationally regarded Certificates of Competency. There was seen to be no valid reason to challenge the structure that had been in existence for over a hundred years. However, with changing times and the increasing demands for transparency and accountability, especially in the public services, this proved to be an ideal opportunity to develop a more robust scheme than had been possible before, now referred to as the 2007 Scheme.

The method employed by the Learning and Development Branch, to decide if a particular training course is considered 'fit for purpose', is largely based on the analysis of an internal Course Evaluation Form. It is intended that these forms will be completed at the end of each training event and typically achieve a 100% return rate, depending on the determination of the course tutor. These forms are based on the concept devised by Donald L. Kirkpatrick in 1959 (Tamkin, 2002,3) and use four levels of response, which are Reaction (Level One), Learning (Level Two), Behaviour (Level Three) and Benefit either to the Organisation or the Individual (Level Four). (Appendix 8) The administration officers then prepare a summary sheet that records the comments made on the individual forms. These are circulated to the Course Tutor and Course Director for comment and identification of any corrective action that may be needed. After a period of four months the learner is sent an electronic Application of Learning Form, intended

to be completed by the individual, and then forwarded to the Line Manager for any additional comments before transmission to the Training Centre. The philosophy underlying the format of the e-form is that of Kirkpatrick's Model Level Three, which attempts to record changes in behaviour as well as gathering information on the learning achieved (Level Two), and benefits to the organisation (Level Four). The percentage of forms returned, despite encouragement and reminders, is in the region of 12%. This low figure gives rise to concerns as to the value of the information to be gained from this exercise. It is likely that those who do return the information have a particularly strong reason, such as a like or dislike of the trainer, location, subject matter or some other personal reason. However, further detailed research would be needed to establish if there is any truth in this assumption.

One of the stated aims of this thesis is to describe the present training programme, known as the 2006 Scheme and the future programme the 2007 Scheme and then critically analyse the methods of assessment of student learning and curriculum evaluation.

The 2006 Scheme was developed by a working group of four specialists, comprising a representative from each of the three survey disciplines, nautical, engineering and naval architecture, supported by an educational specialist from the MCA Training Centre. The rationale was to develop a practical scheme that would be an improvement on the existing arrangement, had some structure underpinning it and, importantly, would be accepted by the operational staff at which it was directed. Many working group meetings were held, in addition to telephone discussions, before a workable draft was to hand. This was then submitted to the three Region Operations Managers for consideration, comment and approval. There was considerable input into the technical

content of the scheme, and while there was not universal agreement on the final content, attempts were made to reconcile this with the Role Profiles (Appendix 2). The declared intention was to review the whole programme after a period of from six to twelve months to update, correct and improve the content as may be necessary.

The 2006 Scheme, is based on a single Work Book and divided into four main sections, A, B, C and D. Sections A and B cover Introductory and Basic training. Sections C and D cover Continuous Professional Development and the more specialist requirements. The following descriptions expand on this brief outline.

Section A covers basic Short Courses which are delivered over a period of one to five days, 'in-house' if possible or if not, then by an external provider. The 'in-house' provision is by subject experts from the relevant branch in Headquarters but pressures on staff time impose a restriction on the timing and number of courses available. When external providers are employed they are often from an established Further Education College and can, if requested, conduct the training at various locations around the country.

Section B is the Competency Record, which outlines the tasks, to be completed and the standard to be achieved, before the individual can be considered to be competent to undertake tasks without direct supervision. This record is arranged in four additional sections covering:-

- 1) short courses, as required
- 2) witnessing others undertaking the task
- 3) undertake the task while being observed and

4) satisfactory answers to a series of questions.

Section C involves a further series of short courses but of a more specialised nature than in Section A, and which have been designed to impart a higher level of knowledge and understanding, than would be achieved during a basic course. They are also useful for the purpose of Continuous Professional Development of existing staff.

Section D covers a limited number of specialist tasks that only a few individuals have a business need to undertake. As the organization's work covers many aspects of the marine industry, it would be impossible to design a programme that was totally comprehensive in its coverage. This section covers most of the tasks that would require specialist training.

Assessment of students learning in Sections A and C.

The short courses as mentioned are divided into two types, those provided by external providers and the ones that are operated 'in-house'. The external courses are those that form the basic training for personnel seeking sea-going employment on commercial vessels. As such they are statutory requirements for those serving in the industry. However, these are not statutory requirements for MCA staff, but are used both to enhance practical skills and to raise the level of understanding. Nevertheless, this training must meet the requirements of the Convention on Standards of Training, Certification and Watchkeeping 1978, as amended in 1995, (STCW 95, 1995) an International Convention to which the United Kingdom Government is a signatory. The Convention stipulates that some form of assessment should take place, a requirement that is usually satisfied by a process of continuous assessment. The outcome is a declaration that the student is 'competent' or 'not yet competent' in the performance of

the particular task. Some of the 'in-house' courses, essentially those that have been recently developed, conclude with a short written paper, which is often 'open book'. It would be incorrect to class these papers as summative assessments, as in the majority of cases there is no marking scheme on which to base a valid student assessment. These could be regarded more as an aid to reinforce the learning rather than anything else. Some of the 'in-house' courses, in the 2006 Scheme, have summative assessments in the form of multi-choice questions, but these are very simplistic, which it would be difficult not to answer correctly. Indeed no student assessment criteria have been established for the majority of the elements that make up the 2006 Scheme, neither has a structured marking scheme been developed. In effect, attendance is sufficient to have the training credited to an individual's record.

The 2007 Scheme was based on the work done in the development of the 2006 Scheme. There are two major differences, the newer scheme having a more comprehensive vocational coverage and the benefit of being externally verified by a recognized organisation. This external influence is a direct result of a policy decision at Executive Board level, taken as a result of comments made in the Fourteenth Report of the House of Commons Select Committee on Transport into the workings of the Maritime and Coastguard Agency. Again it is based on a Work Book but this time instead of one book, there are four with each one concentrating on different aspects of the survey and inspection process, and have been developed in conjunction with the Scottish Qualifications Authority (SQA) as Customised Awards. These Awards are designed to give 'in-house' training, a measure of validation by an external body. They consist of a combination of written questions, with the answers being supplied to the Line Manager, on the job training and in most cases, written assignments designed to examine a subject

in more depth than would traditionally be the case. In addition, there may be a requirement for extra short training courses. It was intended that in the future, the scheme would be further developed to cover Continuous Professional Development and also to introduce both the concept and practice of re-validation of skills. Initially all experienced staff would be considered competent but would be expected to have re-validated their skills over the five year period.

Analysis of Assessments used with the 2006 and 2007 Schemes

2006 Scheme			
	Type of training	Assessment Method (if any)	Comment
Part A	Short Course Safety training	Standard Safety courses, continuous assessment in use. Known from personal experience not to be conducted with integrity but only given token observance. There is no other assessment method in place. There is no requirement to produce evidence of previous experience nor to complete any form of pre-course questionnaire. This, in the main, is because the basic training is designed for persons with no previous experience. The course enrolment form often asks questions about general health and fitness but that is to satisfy health and safety policy.	These are conducted away from the organization's training establishment and are 'open' courses. It is unlikely that any record of continuous assessment was made and kept for subsequent inspection. There is no provision on the part of the MCA Training Centre to inspect records of these providers.
Part B	Task based, 'on-the-job' training	Most but not all of the Units have a Questionnaire as one of the Outcomes. Coupled with assessment of the other Outcomes it is by peer review.	The Answers to the Questionnaire are scrutinised by either the Line Management or a subject expert, with model answers supplied for reference.

Part C	Short Courses	Mainly Standard Safety Courses with continuous assessment in use. See comments under Part A. However some are classed as Advanced Courses, in which case there are two requirements, a) production of a previous lower grade certificate and b) proof of service at sea for some specified minimum period. There are no other requirements.	Continuous assessment method known from personal experience not to be a very effective method of assessment. See comments under Part A.
Part D	Task based, 'on the job' specialist training. These are more specialised Units that would be undertaken by few staff.	This part of the scheme features a limited number of very specialised Units. development of which was stopped when it was decided to develop the 2007 Scheme. No assessments had been designed when development stopped.	While most of the assessors, especially for 'on the job' training, are experienced in the audit process, few have any formal training in the methods or skills to be employed in assessing learning.

2007 Scheme

	Type of Training	Assessment method	Comment
Award No. 1	Work Book based Training scheme, with a concentration on the International SOLAS Convention Chapters 1-5.(See Note)	All Outcomes require that when a Survey or Inspection is included in the Outcomes, a rigorous process is followed. A number of Surveys/Inspections have to be observed being conducted by an experienced colleague, with a report completed on completion. In addition, the candidates have to conduct several Surveys/Inspections which are witnessed by an experienced colleague. The colleague is required to complete a witness	One of the Outcomes required by nearly all the Units in these Awards is the satisfactory completion of Questionnaires. These Q's are not self-assessed as they are checked by a subject expert or the Line Management.
Award No. 2	Work Book based Training scheme, concentrating on International Conventions not covered by Award No.1		

Award No. 3	Work Book based Training scheme covering port installation inspections.	statement. A robust witness statement is a critical part of this process. The precise number of Surveys/Inspections depends on previous experience and would	
Award No.4	Work Book based Training scheme, concentrating on specialist vessels. This will only be taken by a limited number of staff.	be decided by Line Management. A justification of the decision would be required.	

Note. The Safety Of Life At Sea (SOLAS) Convention is the fourth convention with this title and by far the most effective. The first convention was as a direct result of the loss of RMS Titanic on 15th April 1912.

The weaknesses and the strengths of the 2006 and 2007 Schemes are now considered. A major weakness exists with the student assessment process and its implementation, or otherwise, as the case may be. The trainee is required to undertake various activities to the satisfaction of a subject expert, acting as an assessor, but no guidance is given to the assessors who are expected to use their professional judgement. There is no mechanism that allows the assessor to establish links with the Technical Competencies as detailed in the Role Profile (Appendix 2). As the purpose of assessment is to act as a measure of the student's learning there has to be some form and rigour in the process, without this the results have little or no validity. As a result of personal experience, it is realised that the continuous assessment process, as required by the STCW95 Convention, can be very perfunctory and is honoured in the word rather than the spirit. In actual practice it is seldom that a student is declared 'not yet competent'. This could be influenced by the existence of a contractual link between the training provider and the assessor, who are often one and the same, and the end customer, who is usually the student's employer. There is no evidence to support this suggestion and further research would be needed. It

would be an interesting exercise to investigate the extent of record keeping in establishments where this method is in use but is outside the scope of this thesis.

In the case of one or two of the longer courses, a variety of written assessments have been incorporated, which could be 'open book', multi-choice, short descriptive responses or a combination of all three. Here again these exercises can be held to be more of a learning aid than assessment of student's learning with any meaning. The criteria for the multi-choice questions are quite clear, the answers are either correct or not. However for the other assessments mentioned the only criteria, more guidance than anything else, lay in the course outline that formed part of the enabling legislation. These are often written in very general terms and are more a list of Aims rather than anything else.

The answers to the Questions are assessed by the Line Manger or subject specialists, who are supplied with either the salient points or full model answers to act as a guide. Expert professional judgement can then be exercised to decide if the criteria have been satisfied. It might be suggested that, as this is an evidence based scheme, the standard expected for witnessed surveys or inspection reports needs to be specified. This standard can then be confirmed by either a self-declaration, containing the details of each visit, or a witness statement signed by the accompanying Surveyor. It is clear that no formal student assessment criteria exist for the majority of the training, and no guidance of any sort for the rest. No skills training or guidance is given, specifically in the provision of both oral and written feedback. As the majority of the training is not subject to a rigorous assessment process, this lack of training should be regarded as a major flaw in the system. In recognition of this problem, a set of guidelines have been developed for inclusion in the 2007 Scheme, which will assist the assessor and internal verifiers. There

are requirements imposed on assessors and internal verifiers, by SQA, in addition to the extra check by external verification. There are two suggested approaches that could offer a solution. The first is to assess against the requirements set out in the Work Book or Books, which form the core of both schemes. Keeping in mind that the trainees are established professionals in their own right, this should be written to allow scope for the use of professional judgement. Secondly to assess against the Technical Competencies specified in the Role Profile of each job. There are twelve Competencies each with a number of sub-divisions. (Appendix 2). The job holders concerned are recruited from three different professional disciplines and while there are core competencies required by all, those from different disciplines, would normally be expected to have achieved different levels in the more specialised areas. While it would be possible to construct a matrix to detail the various task levels required against the skill inherent in the various disciplines involved, it would be extremely complex to operate given the relatively small numbers of staff involved. However, the identification of weakness in the 2006 and 2007 training programmes is only a part of the story as, despite the noted deficiencies in the student assessment process, there are also strengths to provide balance. In both Schemes the programme content is robust having been prepared by subject specialists who are able, not only to input the technical aspects, but also the element that results from practical operational experience. They have been written in such a manner, that while maintaining the principle of an evidence based system, the paperwork element has been kept to a minimum. The lack of assessment criteria is offset, to a degree, by utilising the professionalism of those involved, many of whom are experienced in the audit process. The 2007 Scheme is more comprehensive in its coverage than its predecessor, and has the added benefit of being administered by the Operations Directorate, rather than the Training Centre, which is an arrangement considered to give the whole programme more

credibility. While it is recognised that the 2007 Scheme is not perfect, it is better than the 2006 Scheme and a good foundation on which to build. One further point, which is both a strength and a weakness, is the provision of ‘in house’ training. On the one hand it is a strength, as there is access to subject experts often policymakers, at the centre of the national administration and who are up-to-date on developments. The downside is that due to the pressures on staff time, training events can be cancelled at the last moment when some incident or other occurs. It is vital that the assessment of the student learning process is well researched and tailor-made for the task at hand, as this is a critical part of the process.

Should the assessors be experienced, qualified and up-to-date in both the subject and the audit process, then the criteria could be written more in the manner of guidance than as a set of rules or standards to be followed to the letter. This would allow the assessor and internal verifier to use professional judgement as to the acceptability or otherwise of the evidence being presented, but also be able to justify the decision at a later date. However, the risk with this more liberal approach is one of unreliability, often the results of differing professional experiences, options and standards. This will always be a problem when human beings are involved, and one method to counteract this tendency is to work to very strict criteria. This dilemma illustrates the care that has to be taken when assessment criteria are being developed.

However, the enquiry must also address the question ‘What is being assessed?’ Certainly knowledge is at least part of the answer, but only a part of the answer, as the ability to use that knowledge would be a more complete answer. This is especially true in the vocational field where application of knowledge can be considered the true measure of

competent. However, the picture is complicated by the discussion on what exactly is knowledge, a theme that will be developed in Chapter Two.

Another relevant question is ‘When should the assessment take place?’ This is an important factor, as, to increase the validity of research findings, all the assessments relating to a particular section of the programme should be carried out over a similar time frame if possible. Allowing a different timescale with different groups would add a distorting factor, which could be argued would affect the validity of the results. This is because of the loss of knowledge with time, but how significant the affect would be on the final outcome could be the subject of further research. Normal practice would dictate that assessment of student learning can either be continuous, that is over the life time of the course or, summative, being an examination in some form, conducted at the end of the training, or a combination of both. For instance, the practical aspect could be the subject of continuous assessment and the underpinning knowledge confirmed by the summative method.

In the interests of completeness it is of interest to explore the two dominant approaches, in the UK, used to express the results of the assessment of student learning. The Standard Assessment Tasks, associated with the National Curriculum, is one approach and Outcomes linked to the National Vocational Qualifications (NVQ), the other. The National Curriculum applies to State-funded schools in the pre-16 age group and is not in itself a concern of this thesis. The Standard Assessment Tasks are of interest as evidence of this prescriptive approach, as they consist of a range of test standards agreed by Parliament. They are published via a series of Statutory Instruments (S.I.s) (for example, S.I. 1992 No.1983), using the powers granted to the relevant Secretary of State by the

Education Reform Act 1988. A study of the contents of the S.I.s shows that they tend to be prescriptive in nature, restricting the opportunity for the exercise of professional judgement by the Assessor. The setting of national standards, with the expectation that they will be adhered to in different circumstances and environments, does require a structured approach and incidentally, by using the powers granted under the Education Reform Act 1988, compliance with the relevant standard becomes a legal requirement, at least for the state-funded sector. As the work in this study refers to the Further Education and Vocational areas, there are not the same legal constraints as apply with the National Curriculum and its associated standards.

Further Education System in the United Kingdom

Any study which touches on the operation of the Further Education sector would be incomplete without the mention of some of the different organisations involved. The system of Devolved Administration in the UK has resulted in apparent complexity and it is not immediately clear where responsibility for various functions rest. It would be helpful, both for the purpose of clarity and to aid understanding, to outline the activities of these various bodies.

There are over 22,000 qualifications in the UK and too many of these, particularly at low levels, are little valued by individuals or employers. (para. 56) .

The number of bodies involved in skills delivery and employer voice will be significantly reduced, simplifying employer engagement. The roles and responsibilities of remaining bodies will be clarified (para. 92)

(H. M. Treasury, 2006 – Leitch Report, Executive Summary)

The flow diagram, Fig. 1.1 shows a number of organisations known as Quasi Autonomous Non-Governmental Organisations (Quangos). These are public bodies set up by government ministers and sponsored by, but not part of, the relevant department.

They exist with the aim of providing advice on, or delivery of, some aspect of the department service. Even though they operate independently, it is the departmental minister who is ultimately responsible for the action taken.

Activities in England are the remit of the Qualification and Curriculum Authority (QCA) together with the Department for Education, Lifelong Learning and Skill in Wales (ACCAC) and the Council for Curriculum, Examination and Assessment for Northern Ireland (CCEA). The education structure in Scotland is slightly different and here the responsibility lies with the Scottish Qualification Authorities (SQA), which is both a regulator and an Awarding Body. SQA is an executive non-departmental public body (NDPB) sponsored by the Scottish Executive Education Department, which is the body for Scotland responsible for the development, accreditation, evaluation and certification of qualifications, other than degrees. It also operates outside the borders of Scotland both nationally and internationally and as such has established a reputation for quality. It is important to remember that the other bodies that undertake the role of regulators, do not in themselves either offer qualifications or deliver training.

If the Regulators are at the apex of the pyramid then the next layer or tier in the system is the Awarding Bodies, who actually specify the content, conduct quality assurance, by means of external verification, and grant the Award. This ensures the maintenance of standards and the value that is placed on a particular Award. The majority of the Awarding Bodies, however, are not subject to any control by the various Regulators. There is no restraint on any organisation setting up as an Awarding Body and operating in the open market without any type of formal approval. Market forces will decide if the Award offered is worthwhile and indeed the majority of Awards on offer do not come

with any form of recognition by the regulator. That is not to say that the Awards are not of good quality, as many are, but that they are essentially self-regulated. Many of the highly regarded Chartered Institutes operate in this manner. The subject of this case study has traditionally issued qualifications under this self-regulatory regime and has only recently decided to open up its internal training to outside scrutiny.

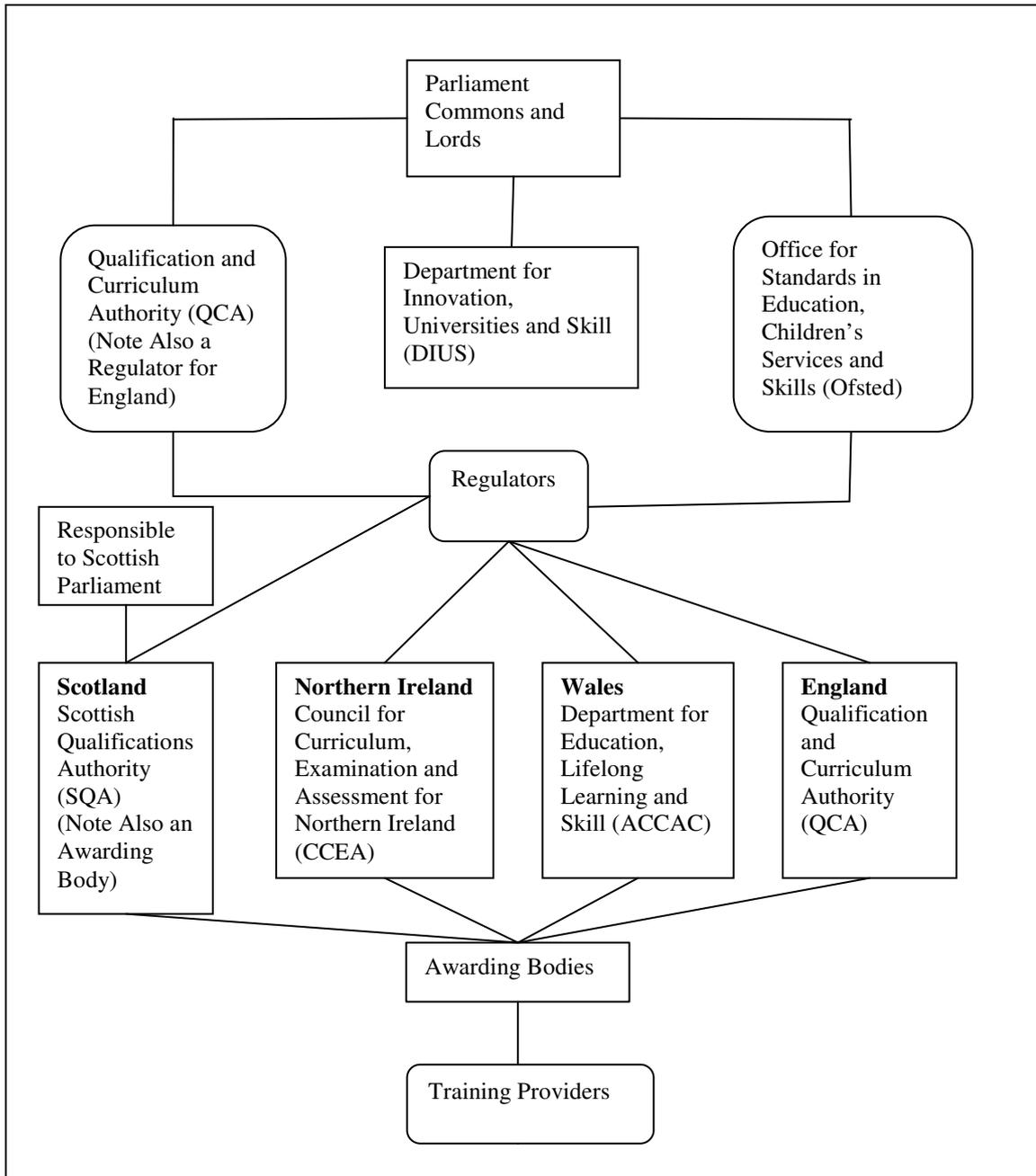


Fig.1.1 Links between Organisations with Responsibility for Assessment and Standards in Further and Vocational Training and Education in the United Kingdom

In the context of this thesis, there are a number of quasi non-governmental organisations (Quangos) that are of interest. These were established under the sponsorship of the Department for Education and Skills but are now linked to the newly established (June 2007) Department for Innovation, Universities and Skills; they are the Learning and Skills Council, Skills for Business Network and the Quality Improvement Agency (formally the Learning and Skills Development Agency).

The Learning and Skills Council (LSC) was formed in 2001, taking over the work of the Further Education Funding Council and the Training and Enterprise Councils. It exists to improve the skills of the English workforce into the twenty-first century, by raising standards and making learning provision more responsive to needs, both of individuals and also of industry. This it intends to achieve by planning and funding post-16 education, other than the Universities and is provided with a considerable budget (£10.4 billion in 2006-7). (LSC, 2008)

The Skills for Business network comprises twenty-five Sector Skills Councils (SSC) which cover 85% of the UK workforce. These councils are employer-led independent organisations that cover specific sectors of UK industry and have four key goals, which are:-

1. To reduce skills-gaps and shortages,
2. To improve productivity, business and public service performance,
3. Increase opportunities and boost the skills and productivity of everyone in the sectors workforce, and

4. To improve learning supply including apprenticeship, higher education and National Occupational Standards.

It is worth noting, that these councils are licensed by the Secretary of State in consultation with the relevant ministers from the developed administrations in the United Kingdom. However, there is no SSC that covers the maritime industry, although sea-going skills requirements are covered by international conventions and the Merchant Navy Training Board based in London. The Sector Skills Development Agency is a non-departmental public body responsible for funding, supporting and monitoring the network of the SSC, which are also overseen by the Commission for Employment and Skills. (SSDA, 2007).

The Quality Improvement Agency was established to:-

1. Accelerate improvement in the performance of the learning and skills sector,
2. Build the sectors capacity for self-improvement,
3. Help the sector respond to strategic reforms, and
4. Lead the sector quality improvement strategy.

The Agency has also declared the intention to position itself as the authoritative source of advice on quality improvement. (QIA, 2007)

Another element worthy of mention is the National Qualifications Framework (NQF), which has been established to enable comparisons to be made between qualifications offered by different awarding bodies, across a spectrum of activities. It should be noted that only those qualifications that have been accredited by the three regulators for England, Wales and Northern Ireland are included. The situation in Scotland is different,

as this aspect is controlled by SQA, and has a well-developed system for establishing comparisons between diverse qualifications, a process known as levelling.

Conclusion

This Introduction has laid out the Aims of this thesis, together with details of the Case Study. It has also provided background information on the organisation of Further Education in the United Kingdom, which is of importance when understanding the role of the Customised Awards.

One of the most critical, if not the most critical factor, in any teaching regime is to be able to critically examine the curriculum with the purpose of deciding if it is 'fit for purpose', that is 'does it do what we want it to do?'. There has been much written about this subject and that will be explored in the Literature Search in Chapter Two. The whole process must be built on firm foundations with a clear understanding of the material that the author of the programme wishes the student to know, and, in the case of vocational training, be able to achieve.

Chapter Two

Review of the Literatur – Curriculum Evaluation

‘There is no subject so old that something new cannot be said about it.’

(Fyodor Mikhailovich Dostoyevsky, 1821 – 1881: Russian author)

This chapter is devoted to a review of the literature relating to curriculum and its evaluation. The intention is to identify the contributions that leading authorities have made to theory and practice and relate this to the Maritime and Coastguard Agency (MCA) professional training program.

The flow diagram (Fig.2.1), developed to illustrate the approach to curriculum design employed in this thesis, demonstrates a logical approach to the review of the literature. A further step links the information gained to the objectives embodied in the four questions posed at the commencement to Chapter One. This is achieved by selecting those elements from the review that coincide with the question objectives. This, in turn, has an influence on the methodology employed in Chapter Three and the data collection as detailed in Chapter Four.

Curriculum Design

Even though this thesis is concerned with Curriculum Evaluation, unless the curriculum design has been carefully thought out, the knowledge gained from the evaluation process may be wasted. This is because, without a clear logical structure it will be difficult or impossible to identify those aspects of the curriculum that would benefit from corrective action. An important part of the evaluation process is understanding the elements that contribute to a successful design. It is for this reason that it is worthwhile looking at the curriculum in some depth. Achieving this clarity of purpose may not be as

easy as it at first seems. Initially there has to be an identified need, be it real or perceived, together with an indication of the time scales involved. As an allocation of resources will be involved, decisions on the extent of the need and the relevant time scale are essentially ones for management.

A successful curriculum can only be developed after a series of fundamental decisions have been made.

These decisions are centred on :-

- a) The outcomes and objectives to be attained, the aspirations and expectations of those involved;
- b) The learning and teaching to be accomplished, the methods, activities and experience to be used, the learning and teaching styles which would be appropriate
- c) The content or subject matter, the skills and knowledge to be acquired, how this was to be selected, structured and organised;
- d) The appropriate forms of assessment, the place of the tests, assignments, the kind of feedback needed and the possible use of profiles and records of achievement (Burke,1995,6)
- e)

The seven steps suggested by Clarke in Table 2.1 (below) are in essence a simplified, and condensed version of the comments by Burke.

<p>Step 1: Diagnosis of need -Purpose</p> <p>Step 2: Formulation of objectives – Aims and Outcomes</p> <p>Step 3: Selection of content – Contents</p> <p>Step 4: Organization of content</p> <p>Step 5: Selection of learning experiences</p> <p>Step 6: Organization of learning experiences</p> <p>Step 7: Determination of what to evaluate and of the ways and means of achieving it.</p>
<p>Table 2.1 Suggested format for the development of curriculum. Source:- Smith, M. K. (2000)</p>

Additional sub headings have been suggested by the work of Armitage (2003). These headings and sub-headings have been combined into the five steps shown in Table 2.2.(below). This layout has been chosen as it forms a series of a simple, easily understood logical steps for curriculum development and as such is a suitable plan for the literature search. It may be argued that the topics could have been arranged in a slightly different order, but that is a matter of individual judgement. This layout is illustrated in the Flow Diagram for Review of the Literature (Fig. 2.1) which is intended as an aid to the navigation of this chapter. The information gathered has been organised into a series of linked topics. Each topic is separated into two parts, the first relates to the literature search, and the second to how these findings link to the MCA Programme.

Step 1: Diagnosis of need -Purpose

Step 2: Formulation of objectives – Aims, Objectives and Outcomes

Step 3: Contents including Delivery, Learning Styles and Motivation

Step 4 Programme related– including Staffing, Qualifications
and Environment

Step 5: Determination of what to evaluate and of the ways and
means of achieving it.

Table 2.2 Steps to be used as heading for this literature review

A definition

Initially and before delving into the literature, it would be useful to establish a clear understanding of the meaning of ‘curriculum’. A comprehensive definition, relating to professional training, is that used by the Postgraduate Medical Education and Training Board (PMETB). This is the independent regulatory body responsible for postgraduate medical education and training in the United Kingdom. This definition is relevant in the present context as in both cases the student group have similar profiles. That is, they are both groups of intelligent, motivated, experienced, qualified and responsible professionals.

A statement of the intended aims and objectives, content, experiences, outcomes and processes of an educational programme including:

- a description of the training structure entry requirements, length and organisation of the programme including its flexibilities, and assessment system,
- a description of expected methods of learning, teaching, feedback and supervision

The curriculum should cover both generic professional and specialty specific areas (PMETB, 2008).

Case Study

The design of the MCA programme, as described in Chapter One, is centred on four Customised Awards, developed jointly by the MCA Training Centre and MCA technical staff in conjunction with the Scottish Qualifications Authority (SQA). Customised Awards are qualifications specifically designed to suit an organisation’s internal training needs. They have the advantage of being externally validated by an internationally recognised body. In this instance, SQA acts as both an awarding body and as external verifier. Each Customised Award consists of a number of Units with each Unit requiring a number of activities to be completed. These, in turn, require the production of evidence as proof of competence, but with the proviso that past experience can be given due credit. This is achieved by a system of Accredited Prior

Learning (APL) a process that allows credit for past learning or responsibilities. The only restriction on the type of evidence used is that it is considered valid and acceptable by assessors, internal and external verifiers. Adult learners are looking for relevance, and personal experience has shown that some have difficulty with the concept of APL, not accepting the need to provide evidence of past training or operational experience. Occasionally the student does not appreciate the breadth of knowledge and experience that they possess. On the completion of each Award, a certificate is issued by SQA and counter-signed by the MCA Chief Executive, to confirm satisfactory completion of that part of the programme.

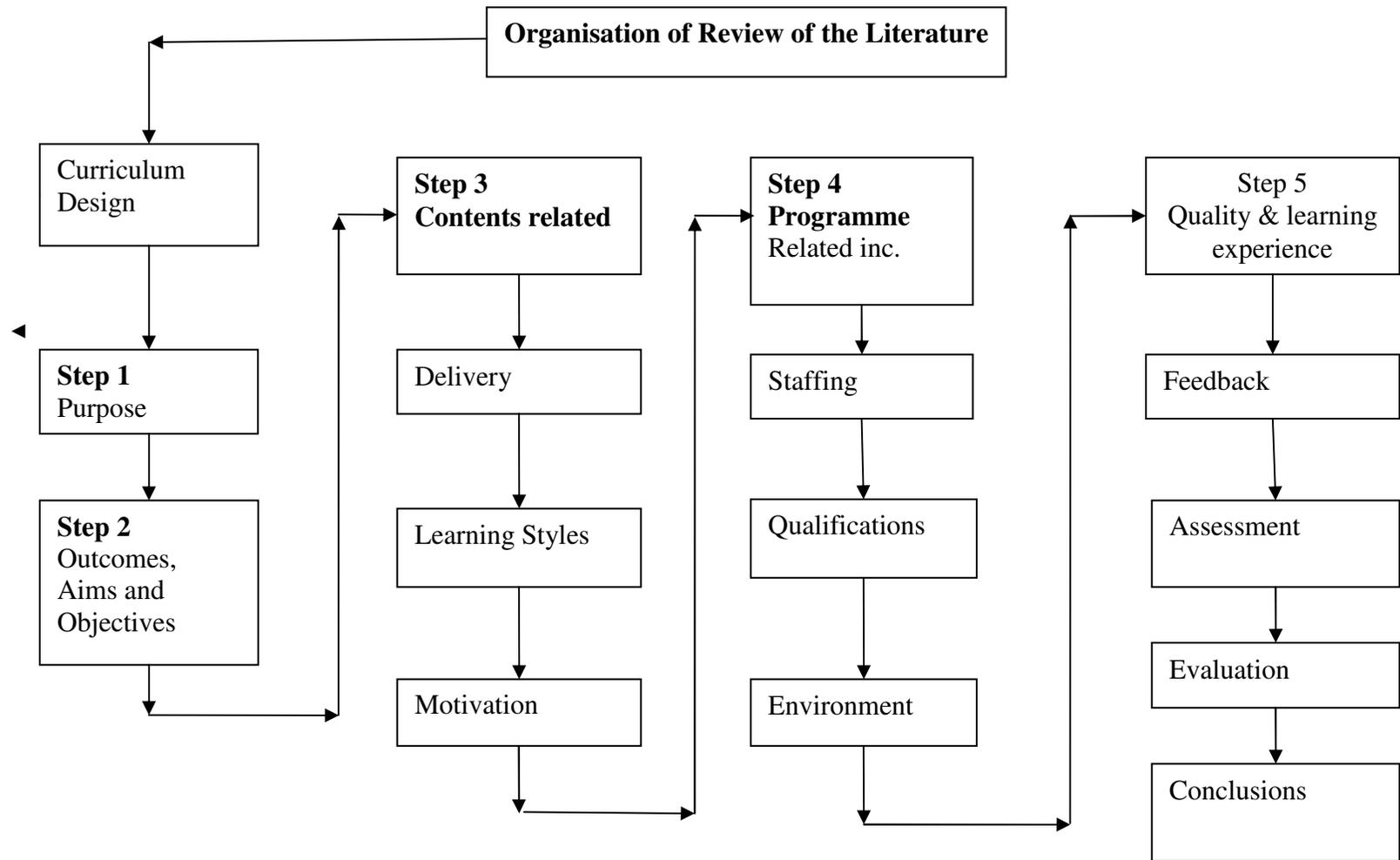


Fig. 2.1 Flow diagram for Review of the Literature

Source:- Based on Table 2.2 –developed from Armitage (2003) and Burke (1996)

Step 1 – Purpose (Refer. Fig. 2.1)

When considering the detail of the curriculum design the fundamental question that has to be asked is “Why is this training programme needed?” The training being considered is directed towards highly experienced professionals employed in safety related activities. The consequences of mistakes are greater, in terms of the direct threat to human life, than is the case with the non-safety related professions. In this case the professionals concerned are civil servants, charged with the implementation, monitoring and ultimately, the enforcement of statutory requirements relating to maritime transport. This covers such work as the monitoring and auditing of Colleges of Further Education providing marine related training, to ensure consistency and maintenance of standards. In addition, there is an obligation on Nautical and Engineer Surveyors to conduct oral examinations leading to the award of certificates of competency and also investigation of marine related incidents. There is also a substantial involvement in the inspection of non-United Kingdom registered vessels calling at United Kingdom ports together with the verification of standards on UK registered shipping worldwide. The standards required of all vessels are stipulated by a range of International Maritime Organisation (IMO) Conventions, the most important of which is SOLAS 1974, as amended. The experience of the personnel is such that interpretation of the regulations is allowed and indeed expected, based on the spirit as well as the wordings of the requirements. The caveat to this is that it must be possible to justify any decisions made based on a sound technical understanding of the matter. The work requires interactions with many different cultures and nationalities, many of whom do not have English as a mother tongue. Therefore there is a considerable amount of interpersonal skills involved, which my own experience has shown can be lacking in those with a purely technical background.

As this work is directly related to public safety, it is right and proper that those concerned are competent and can be shown to be competent, to undertake the tasks involved. The culture of our modern society is one that requires accountability especially where safety is concerned. Accident inquiries attempt to identify the causative factor or factors, together with the individual whose actions may be at fault. The Health and Safety at Work Act 1974, specifically mentions a duty of care, both of individuals to each other and by the employer to the employee. Increasingly the criminal law is being invoked with often severe repercussions for those considered at fault. Even without a prosecution the strain on those involved can be very damaging. This is in addition to any action that may be brought in the civil courts, by individuals or organisations who consider that they have been disadvantaged by a decision made. It is vital that personnel are not only trained to an acceptable standard but are able to provide the necessary proof. In addition, the employer should be in a position to show that the duty of care has been exercised, especially as regards training.

With these considerations in mind, clarity of purpose is vital. It is impossible to train people if the ultimate goal is not clearly identified. In the absence of a clear training requirement, the situation requires that a Training Needs Analysis is conducted.

This, in its simplest form requires three steps:-

Step 1 Establishing the present level of achievement or competence,

Step 2 Identifying the level of achievement or competence required, and

Step 3 Devising a route to advance from the situation described in Step 1 to that in Step 2.

This is a very simplistic way of viewing what can be a time consuming, complex and expensive, but necessary exercise.

Case Study

This programme was initiated by the MCA Training Centre, in response to internal management concerns about the absence of a structured training scheme. Senior management considered that this potentially exposed the Agency to a variety of risks, ranging from reputation damage to claims for compensation as a consequence of flawed decisions, resulting from inadequate training. In addition, a changing society requires more openness and accountability from those in positions of authority. Another factor was that Crown Immunity has gradually been withdrawn over the years exposing government bodies to risks that had not been considered in the past. In addition, the Surveyors are sometimes called to give evidence or offer expert advice in Courts of Law or Accident Inquires. In the absence of a structured training and Continuous Professional Development (CPD) programme, the competence of those involved, could be challenged.

In the international arena greater interest has also been taken in training. The organisations principally involved are the International Maritime Organisation (IMO), an agency of the United Nations, and the European Maritime Safety Agency (EMSA), part of the European Union machine. IMO was set up to co-ordinate action between governments on maritime safety matters and EMSA's original brief was to advise member states on similar concerns. Both organisations are developing the ability to investigate and audit some of the training activities of the maritime administration in member countries. In addition, the Paris Memorandum of Understanding Group, (Paris MOU,2008) originally a ship inspection and reporting organisation, is now turning its attention towards providing and auditing inspection- related training. This group comprises twenty-seven countries, ranging from Malta in the south, Canada in the west

and including much of northern Europe. The purpose is to share ship inspections reports, with the ultimate aim of eradicating sub-standard vessels from the seas adjacent to the coastal states. The importance of this has been emphasised recently by several high profile accidents, notably to oil tankers which were alleged to have been sub-standard: in particular, the M.V. ERICA which broke into two sections in the Atlantic in December, 1999 and the M.V. PRESTIGE, which sank through structural failure, in May 2002 off north-west Spain. Extensive oil pollution of adjacent coasts followed.

The MCA Training Centre had a more immediate reason for reform. During the recent period of reorganisation, technical training was not given a high priority with the result that a perception developed that training was unimportant. This message was reinforced by the lack of suitably qualified staff in post to provide the necessary advice and guidance. Consequently such training that was available was at best unfocused, at worst unsuitable and did not justify the resources involved. Great efforts have since been made to introduce training both when requested and to anticipate future needs, with the purpose of keeping pace with developments and raise awareness of future technologies.

Step 2 Outcomes, Aims and Objectives (Refer to Fig.2.1)

Having discussed the reason for the training, it follows that the next step is to determine the goal or goals that demonstrate that the purpose of the training has been achieved.

There is often confusion over the terms being used and a definition may be helpful.

Broadly speaking, all educational purposes can be defined in one of two ways:

(a) What it is intended that the teacher will do (an aim or a teacher-driven objective);

(b) What it is intended that the student will have learnt, or will be able to do, as a result of a learning experience, (an objective or learning outcome).

In the past, objectives have often been defined in terms of the teacher's

activity; i.e. corresponding to definition (a) above. This is no longer adequate because teaching objectives need to be defined in terms of the ultimate purpose - student learning. (Guidance on and Objectives, Centre for Learning & Professional Development Aims, University of Aberdeen, 1997,1)

Aims, Objectives and Outcomes, which clarity of purpose and good practice necessitates, are difficult to write in a clear and concise manner. There is often confusion as to the essential difference between Aims, Objectives and Outcomes. The Aim is a statement of the general purpose, for example 'to give the student a sound grounding in management theory'. The Objectives should describe the steps required to achieve the Aims, for example 'by the end of the training the student will be able to understand a specific topic in that part of the course.' On the other hand the Outcome states what the student will be able to do at the end of the training, for example 'the student will be able to use critical thinking and problem solving in the management field'. Therefore the outcome will describe the ability or competence of the student, by taking into account the results of all the learning experiences to which the person has been exposed.

Much material has been published on the topic of Aims, Objectives and Outcomes and clarification can be found in the work of two prominent thinkers, Tyler and Jessop. Ralph Tyler worked in the United States of America, in the 1930s. He was appointed Director of an eight-year study into high school students' performance where he compared the progress of students whose studies were governed by a progressive curriculum, as against those using a conventional one. His stipulation was that the evaluation criteria be confined to course objectives with the result being measured by the extent to which this was achieved. Tyler's model is still widely used, but probably not known as such, and with experience is considered to have some disadvantages,

especially when used outside the school environment. The main criticism is the concentration on the objectives, and as such it is considered school-based; it does not allow for unplanned outcomes and cannot value the adult learners experience. This last factor alone would make this model unsuitable for use with adult learners.

Tyler's model is centred on a behavioural approach, that is treating curriculum as part of a process. Behaviourism is described as being concerned with a person's observable actions, but like all courses of action this has strength and weakness. The strength is that it is a scientific approach, indicating that there are measurable results. The weakness, on the other hand, is that it is too determinist, taking no account of the human being in the equation. The implications are that the student is told what and how to learn and how the Objectives will be measured. There is limited input from either the learner or the teacher as far as creativity is concerned. The present situation in the UK, with the emphasis on school league tables, is an example of the result of this approach. The tables measure the attainment of Objectives or targets and not the overall benefit to the individual student. The inner city school serving a deprived area may produce poor examination results but, working from a base of low expectations, achieves more for the students, in terms of added value, than shows in their position in the tables.

Another approach was taken by Jessup who championed the concept of 'outcome-based' qualifications where the sole measurement of success is the achievement of the set Outcomes.

The outcomes model is based upon the assumption that learning is a personal and individual experience and that to 'standardize' it by adopting specific modes and time periods is not the most effective means for a group to achieve a set learning outcome. Individuals need to manage their own learning experiences in a manner which recognises

where they start from, their preferred styles and modes of learning, and the time and opportunities they have for learning. (Jessup, 1995, 33)

As Jessup was influential during the early stages of the introduction of the National Vocational Qualifications (NVQs) it is hardly surprising that the system is outcome based. Jessop's model is predominantly one where the end result is one suitable for vocational training in that it is proof of what someone can do, rather than of what someone knows, although this was always an important element.

In summary, on one hand there is Tyler's model that measures success by the attainment of the Objectives. It is very deterministic in nature, making no allowance for the human input generated by feelings and experience. and as such can be termed 'institution centred'. On the other hand, Jessop's model that uses the achievement of Outcomes as the sole measure of attainment. The Outcome will specify what the student is able to achieve, a competency based approach. Jessop was not concerned about the educational route only the result, and as such his model can be termed a 'student centred' approach.

Further to this there are several important points worthwhile considering, in relation to Outcomes. To be valid, they have to satisfy several criteria. They should be Achievable, Measurable and Realistic.

- a) Achievable means that the outcome can be realised by the average student, in a reasonable time frame, in the context of the subject being studied. This may seem a commonsense point to make but personal experience has shown many examples where this has not been the case, often for the very best of reasons, an example would be questions asked that require a more detailed answer than the time allowed would permit.

- b) Measurable is another easily-stated requirement but not that easy to deliver. In the case of a quantitative answer then the outcome is fairly clear. When a descriptive response is needed then there is more room for manoeuvre and thus more chance for dispute.
- c) Realistic. Keeping in mind that the outcomes relate to professional training, it would be de-motivating, in the least, to expect results that do not related to the task to be performed.

Ellis, (1995,83-95) has suggested additional factors that should be kept in mind when determining Outcomes. These include:-

1. Explicit - A the major fault with many programmes, especially those that have been operating for a prolonged period, is the loss of direction.
2. Flexible - There needs to be a flexibility of approach so as to be proactive, or at least reactive, to changes in the needs both of the student and the subject. There are two types of training content under consideration: those of a statutory nature and others of a non-statutory nature. In the case of the statutory training the contents will be specified by legislation and cannot be varied except by government action. Even in cases, as applies to Merchant Navy training where there is a requirement laid down in international Treaties, the requirement has to be enacted into United Kingdom law. This is because Treaties are agreements between governments and as such are not enforceable against a country's citizens. The other group are of a non-statutory nature where the contents are developed and adjusted to suit the specific requirements. These may be that of an industry, as in the case of a Sector Skills Council, the students

as in a case of an Access Course aimed at getting a student back into learning, or the requirements of a specific employer.

3. Scope - The Outcome should allow scope for different approaches to a problem without being too prescriptive.
4. Relevant - The specification must be relevant to the learning and the task for which the training is designed. Here it is important to note the difference between relevance and the perception of relevance, not always coincidental. Material that is perceived as relevant by one member of a student group may be considered a waste of time by another. This can be due to a variety of reasons, but is probably based on previous industrial experience. Personal experience has shown that much of what was learnt in the past was out-of-date and unrelated to the world of work or not used in modern practice.
5. Challenging - The specification should be framed in such a manner as to 'stretch' the ability of the individual. This is more subjective than some of the other aspirations of Ellis, who emphasized the need to make the most of human potential.

Further to this, some commentators (e.g. Stanton,1995, 114-115) argue that the idea of a decision, based only on a simple statement of Outcomes, is too simplistic a response and not valid for all circumstances. This statement is based on the premise that some people are more 'competent' or able to perform a task than others. In addition, different levels of competency would be expected from staff at different levels in an organisation or at different stages of a career. Solving this problem involves breaking down the requirements into smaller, more manageable sections, taking care not to develop a matrix that is so detailed as to be unworkable. The solution is a Level Descriptor

which will define the levels of knowledge required at each step along the route from novice to expert. An outline of Level Descriptors is contained in Appendix 1 with a more detailed description of the actual requirements in Appendix 8. Each Level Descriptor will have an associated competency level attached.

In the context of the achievement of goals, the work of a committee of cognitive psychologists from the University of Chicago, under the guidance of Benjamin Bloom, is of central importance. They identified three categories or domains of educational activities consisting of cognitive (knowledge), affective (attitude) and psychomotor (skills). This work resulted in the publication in 1956 of the theory commonly known as Bloom's Taxonomy (Bloom, 1956) or to give it its full name, Bloom's Taxonomy of Educational Objectives, which proposes that all tasks favour one of the three psychological domains. (Fig. 2.2) The term taxonomy simply means a classification. Bloom's work was not intended as a hierarchy, although at first sight it would seem to be designed on similar lines. The different layers or levels in each domain can be thought of as goals in the learning process. Depending on the type of training being organised, various levels can be omitted. Therefore, a student who will be using the knowledge, need not understand the theory, only its application. Similarly, a person who has the task of the evaluation of the results need not fully comprehend the whole process or its application.

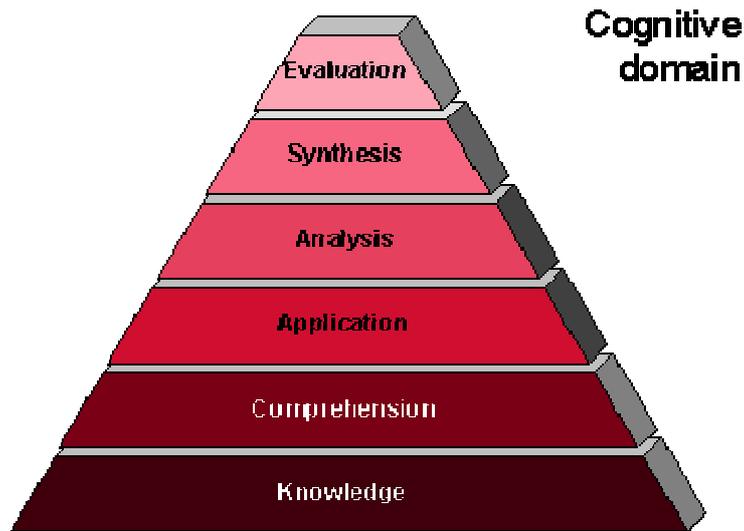


Figure 2.2 Bloom's Taxonomy of Education Objectives

Source:- <http://www.learningandteaching.info/learning/bloomtax.htm>

(18th August 2008)

Lastly in this section on Outcomes, it is vital that the Outcomes are accompanied by a suitable set of standards, that is details of what needs to be proved and at what level to reach the standard required. In other words 'What does being competent at this level actually involve?' This is not necessarily the same as achieving the set Aims and Objectives as a comparison between the school centred and student centred models has shown. These standards can be of two types, either National or company based, either way they need to be the outcomes termed Level Descriptors. (Fletcher, 1997, 22)

Case Study

Outcome required in the case study is the statement that the candidate is either 'competent' or 'not yet competent'. This is a judgement that has to be supported by evidence. In the MCA programme this evidence is provided by a Portfolio of Evidence, which includes a Record of Observed Inspections and a Record of Witnessed Inspection both of which require input from an experienced colleague. This is in the form of a

Witness Statement as to the performance of each task. In addition there would need to be supporting evidence of satisfactory completion of any training course that had been specified. A selected number of Units required the production of a Project Report, which also should be assessed by experienced personnel. The exact number of records required varies from Unit to Unit depending on the subject. On successful completion of the requirements, the Line Manager would be in a position to use this as part of the evidence needed to establish competence. However, the important element is the levelling of each Competence against the descriptor.

A final and significant point is that the granting of any or all of the Customised Awards cannot be considered as any form of a Licence to Practice. Such a distinction may well emerge in the future, but the immediate concern was the development, acceptance and implementation of a robust professional training programme, initially directed at new entrants and then expanded to all existing professional technical staff.

Step 3 Contents including Delivery, Learning Styles and Motivation

(Refer Fig.2.1)

Content

Having decided on the curriculum design framework, followed by Step 1 (Purpose) and Step 2 (Outcomes) – the next logical step is to consider the development of the Contents and Related Topics (Step 3). This will always be a balance between ‘need to know’, ‘nice to know’ information and the time and other resources available. Should the training be of a statutory nature, as the majority of UK Merchant Navy training is, then the individual provider or course designer does not have input into the content. There is no statutory requirement for MCA staff to undertake Merchant Navy training.

Such training is undertaken for experience and to be aware of the training the crews undertake. This will have been specified by legislation and can only be altered by international agreement. Where there is discretion such as with up-dating or in-house refresher training then there is considerable latitude to adjust the content.

At this stage of the planning the technical outline of the programme will have been decided, either as a result of a policy decision or by the use of Training Needs Analysis techniques. The next step then is to identify the constraints on the programme that would operate in any organisation. These are many but the principal ones must be cost, time, relevance, facilities and other resources. Initially, a cost-benefit analysis would be the first place.

A cost-benefit analysis is used to identify if a programme is worth running, not that it should be run. The fundamental rule is simple: if the benefits of the programme exceed the costs, then that programme is worth undertaking. Simple but difficult to put into practice (Belfield, 2000,10.)

In this context, economics can be said to be the study of the use of limited resources, which have alternative uses. This sentiment reflects the comments made by Belfield and is an easy point to make but not so clear cut to put into practice. In the type of training being considered, that for experienced professionals, it is a straightforward task to measure the cost involved. However, what is not straightforward is establishing a value for the result, the product. Often a management decision is taken that this training needs to be done and cannot be justified by any other measure. Staff and student times are significant factors in the cost calculations and in many organisations the travel costs incurred can be significant. Also an influence on the course content will be the facilities available, either on-site or with third party providers. In a practical sense these factors have a real influence on the contents of the course and its delivery. The need to

differentiate between the ‘need to know’ and ‘nice to know’ information is relevant here.

Case Study

A major problem lies with attempting not only to specify the course content but also the level at which the three different survey disciplines, that of Nautical (Navigation), Marine Engineering and Naval Architecture are expected to operate. Inevitably some courses are restricted to either one or two of the three groups. An example of this practice is the Marine High Voltage course, which is restricted to experienced engineers as it deals with the highly specialised subject of high voltage electrical power. Engineers require a sound knowledge of electrical theory to benefit from such training.

Apart from the short safety courses where the contents are fixed by statute, there are two other types of courses on offer, refreshers and an introduction to new technologies. The refresher training is principally intended to refresh background knowledge, and to ensure that the surveyors are better informed on selected subjects. An example would be a 3-day course on Ship Stability for the Engineer and Nautical disciplines. This refreshes ideas and concepts first learnt for Merchant Navy Certificate of Competence examinations passed many years previously. In this case the training was not open to, or recommended for, Naval Architects who deal with the subject in their day-to-day work. The other type of course, introduction to new technology, is intended to inform either on new industry developments or on existing systems that could be outside the student’s experience. It is important to remember that the intention is to make the surveyors better informed. It was not intended that they should be able to conduct long technical conversations outside the discipline, but to be able to understand, and appreciate, the significance of information being passed to them.

The detailed course content was influenced by several factors which were :-

- a) The twelve competencies as detailed in Appendix 2. These are an attempt to define the competencies required for a very varied and complex technical job. They have been developed and refined, by internal review, over a considerable period of time. At one stage an attempt was made to reduce, or sub-divide, these overall competencies to a matrix of some 300 or more specific competencies. However this was abandoned as being too complex and unworkable in practice, at least as far as a training tool was concerned.
- b) Input as the result of regular meetings held between the Training Centre, the Regional Operations Managers and operational surveyors. Often this was achieved by the inclusion of a standing item on the regular regional management meetings. On other occasions, the subject was raised as part of the regular internal office meetings, usually held on a monthly basis,
- c) Personal experience. This was the result of one-to-one conversations with the various stakeholders concerned, that is surveyors, managers and instructors. The instructors input was especially valuable as this clarified both the amount of content and the best form of delivery that was appropriate to a specific aspect of the subject.

Delivery

After considering the actual content, the next challenge is how this information is to be transmitted to the learner. A significant problem with all human interactions is communication, or more exactly mis-communication, that is the loss of meaning between the message the trainer transmits and that which the student eventually stores in memory. The philosophy of the refresher training, and also to a degree the courses on new technologies, has been influenced by ideas of personalised learning. This is a student-centred, approach in which students are encouraged to take some control over

their own learning. However, the approach cannot be completely student centred being constrained within the overall context of the subject, for reasons of resource management. The students are encouraged to identify areas of interest within the subject, which may not have been included in the course content. The teaching staff are sufficiently experienced to be able to explore other aspects of the subject, even when unplanned. Many people do not feel comfortable with the idea of participation and very much want the training to be 'done to them' and are either reluctant, or refuse, to contribute to their own learning. The end of course feedback often implies that any failings identified, are solely the fault of the Course Tutor or Course Director, consequently the students do not get all that might be gained from the course. This attitude presents a considerable barrier to learning and is probably deep-seated in the culture of the intensely conservative shipping world. There is also a culture of not being able to admit, in the presence of peers, that they do not know everything there is to know. This could be seen as arrogance, and in some case that is probably true, but mostly this behaviour may be a defence mechanism in the face of a perceived threat, or challenge.

In order to successfully deliver a training course, there must be a basic understanding of how information is transmitted and received between people. The exact mechanism of how individuals receive, filter and subsequently store information is a complex process and not fully understood. The development by Dale, in 1960, of his Cone of Experience (Fig 2.3) has provided not only a useful way to illustrate the problem but also acts as an aide memoir for the trainer..The working of the brain in relation to memory has come to be understood, if only to a limited extent. This is critical to the process of learning itself. In cognitive psychology memory is divided into three parts, the sensory, short term and

long term. Sensory is thought to be very short lived, a few seconds or less. Its function is thought to be the gathering of all the sensory data that is received from the outside world and is regarded as having unlimited capacity. This data is then processed and that considered relevant and important is transferred to the short term memory (STM).

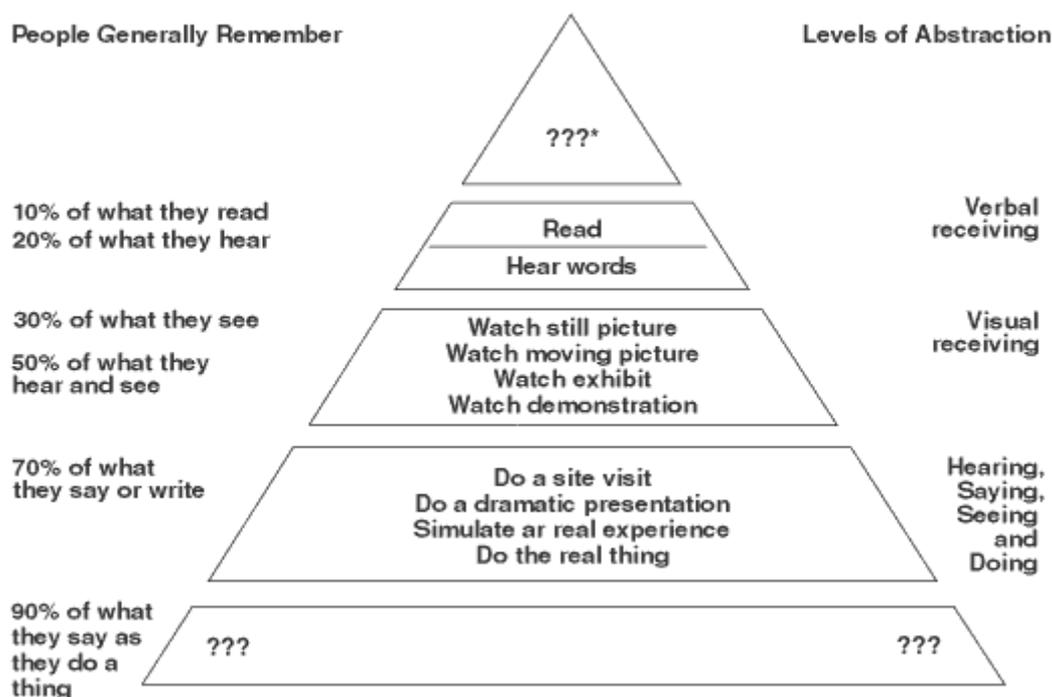


Fig 2.3 Dales Cone of Experience

Source:- Available at:-

http://www.kidsarus.org/volunteers/Volunteer_Leader_Training_Guide/2001/communication_dales_cone_experience.htm (12th July 2008).

Again the duration is limited, possibly to less than a minute in duration. Storage in STM is mainly in the form of sounds but can be stored as images and there is evidence that occasionally some people use colours. In this context, it is worthwhile mentioning the work of Miller, a Harvard based psychologist, who published a paper that provided further insight into the workings of memory (Miller, 1956). He found that data is stored in the form of small pieces, or chunks, and that the most the average

person could remember of these chunks was seven +/- two, now referred to as Millers Magic Number. This has implications for the world of education in that the trainees must have a reason to retain the information being transmitted and not filter it out. A further implication would seem to be that it should be as clear and as simple as possible, relative to the target audience.

Short term memory is defined as :-

A system for temporarily storing and managing information required to carry out complex cognitive tasks such as learning, reasoning, and comprehension. Short-term memory is involved in the selection, initiation, and termination of information-processing functions such as encoding, storing, and retrieving data. (Medical. Net 2007)

Long term memory, on the other hand, consists of the knowledge stored that effects our perception of the world around us. It is by definition individual to the person concerned and is the framework on which to attach new knowledge.

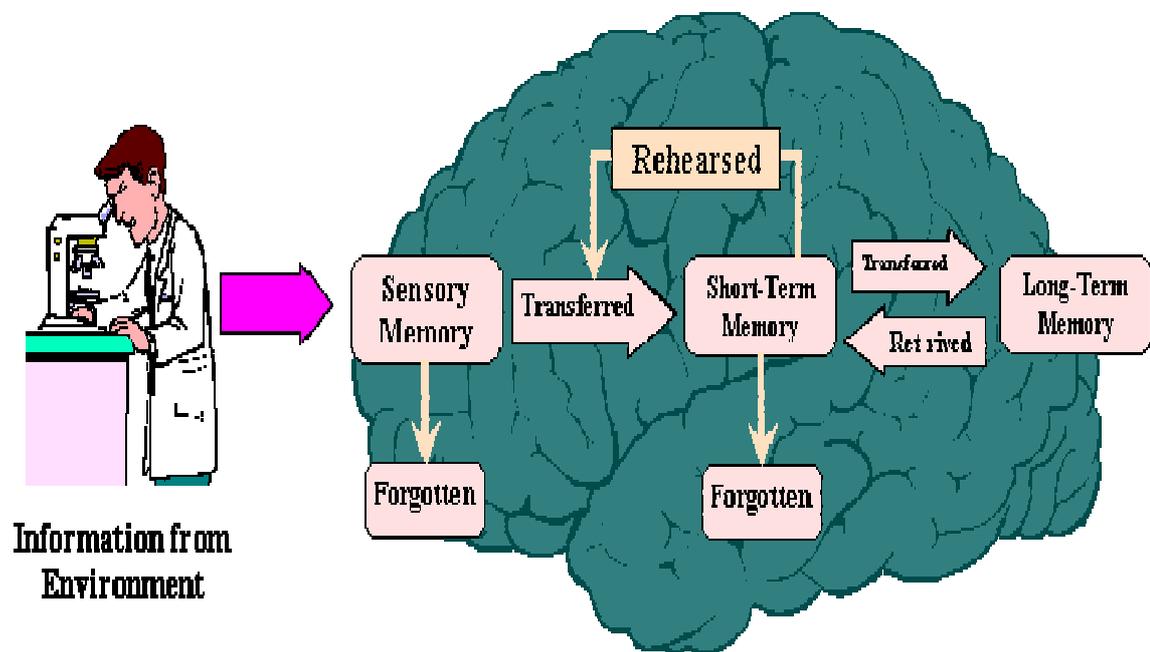


Fig. 2.4 Stylised view of the memory process.

Source;- <http://www.skagitwatershed.org/~donclark/hrd/learning/memory.htm>

(20th August, 2008)

Finally before leaving the topic of learning and memory, there is a concept that has been widely written about in recent years, termed ‘surface’ and ‘deep learning’. This a distinction that some commentators make with surface learning, indicating an acceptance of facts, but with deep learning, meaning an understanding of those facts and the use to which they can best be employed.

In distinguishing deep and surface approaches, an important determinant is the intentions to understand and memorise respectively. A student adopting a surface approach does not seek understanding and, therefore, relies upon memorisation. Understanding and memorising are, then, seen as almost mutually exclusive as far as intent is concerned, although those seeking understanding may make some strategic use of memorisation for particular tasks (Kimber, 1996, abstract)

There is evidence to suggest that surface learning can be transferred into deep learning by the practical application of information initially gained as a matter of surface learning. That is to say that only those ‘useful’ facts are transferred to the deeper side of the learning experience (Rainbird,2004,213).

Case Study

As all new staff at the MCA Training Centre are expected to gain the Certificate of Training Practice, during the first 12 to 18 months of service, it is to be expected that the standard of classroom delivery should be good. In addition, subject experts who are used for the occasional specialist course are encouraged to undertake an in-house Presentational Skills Course, which has enjoyed very good feedback.

Learning Styles

Feedback, from students is highly valued and given due consideration in evaluating the delivery of any particular training event. Closely coupled with the understanding of the delivery problems is the complex issue of individual learning styles and how this affects the trainee’s perception of the training received. A learning style can be

described as the way a student consistently responds to, and uses, stimuli in the learning process. The style that an individual exhibits can be determined, it is claimed, by one of the many 'instruments' on the market. There is however a danger that people can become convinced that the style indicated by the results of a particular instrument defines their style for all time and in all circumstances. This is far too simplistic a view, as the human learning process is far more complex than this and still not fully understood. The truth behind this statement is born out by comments made in a recent (2004) report issued by the Learning and Skills Research Centre, supported by the Learning and Skills Council and the Department for Education and Skills, sometimes referred to as the Coffield Report after its lead author Professor Frank Coffield.

An Assessment Instrument, normally a questionnaire, is the method commonly used to determine an individual's learning style. There are a number of these on the market each reflecting the learning styles theory supported by the publisher. Amongst these are Honey and Mumford's Learning Style Questionnaire, Kolb's Learning Styles Inventory, Dunn and Dunn Model and Instruments of Learning Styles and Allinson and Hayes Cognitive Styles Index and there are others. Coffield investigated the rationale behind seventy-one of the Assessment Instruments available in the market place. Out of this number thirteen were selected for a more detailed scrutiny. The report concludes that much more independent research needs to be undertaken, before any definite conclusion can be reached as to the reliability or effectiveness of these tools.

Learners are not all alike, nor are they all suspended in cyberspace via distance learning, nor do they live their lives in psychological laboratories. Instead, they live in particular socio-economic settings where age, gender,

race and class all interact to influence their attitude to learning (LSRC – Coffield Report 2004, 142).

The report continues with a comment on the idea of matching the tutor's learning style to that of the students. This could be beneficial in the one-to-one situation but in reality, groups consist, if the learning styles concept is to be taken seriously, of individuals with different styles and who learn at different speeds. In reviewing the evidence it would seem that the best that can be gained from this topic is that these tools provide an indication of a tendency towards a preferred style, at that moment in time. A change of time, place, occasion and the general teaching environment can change the individual's identified preferred learning style to a larger or lesser degree.

Another worker in this field was Gagne (2003), whose work has been classified as instructional theory, based on an information processing model and describes several factors that were named Conditions of Learning. As such he postulated that his taxonomy consisted of five categories being verbal information, intellectual skill, cognitive strategy, attitude and motor skill. The intellectual skills he further divided into seven sub-groups classed as:-

- stimulus recognition,
- response generation,
- procedure following,
- use of terminology,
- discrimination,
- concrete and defined concepts and finally,
- rules.

Lastly Gagne considered the many different internal and external factors that were necessary to achieve each type of learning. (Gagne, 2003) This would appear to have

the effect of producing an over-complex model that, to be of any practical use has to be translated into a format, for implementation by the ordinary practitioner in an every-day teaching environment.

Case Study

The training that MCA Training Centre staff receives, in the form of the Certificate of Teaching Practice, includes the study of Learning Styles. However, practice tutors are very much aware that in a group there are likely to be students with different preferences. It is possible that with a small group that one style could predominate and the tutor has to be aware that this is occurring. Almost inevitably, the feedback received will contain some reference to the teaching style. An example was a recent session, on Conflict Avoidance, where the presenter used close up magic as a means of illustrating that all is not what it seems. Most people found this memorable and enjoyable but one comment was that, 'it detracted from the learning'. The preferred style of this commentator was evidently not suited to this form of instruction. However where this comes into its own is in the one-to-one situation, where it soon becomes obvious to the tutor which is the correct teaching method to adopt.

Motivation

Motivation is the art of getting people to do what you want because they want to do it.

Dwight D. Eisenhower. 1890 – 1969 : Soldier and 34th President of the United States of America.

The learning process is similar in structure to a chain. Each link depends on another and the overall strength of the chain is only as good as that of the individual links. An integral part of the learning process, part of the chain, is having a reason to learn. Adults

and especially experienced professionals need a reason to learn and few will learn for the sake of the learning itself. The work of Maslow is of interest in this context. Maslow produced his theory, entitled Hierarchy of Needs, in 1943. In this Maslow expounded the idea that there was an order in which human needs had to be satisfied. These were initially the need to survive, then safety, followed by belonging, to feel esteem and, finally, engage in personal growth. This implies that only when basic needs are satisfied can the motivation exist to move to the next level in Maslow's model. Incidentally this gives weight to the importance of the teaching environment in the learning process, that is the feeling of being in a safe environment, intellectually as well as physically, insulated from threats of any kind. It is only then that a human can indulge in that particular human activity of being able to satisfy curiosity or self interest which leads to the development of a cultural dimension to life.

**Maslow's Hierarchy of Needs
(original five-stage model)**

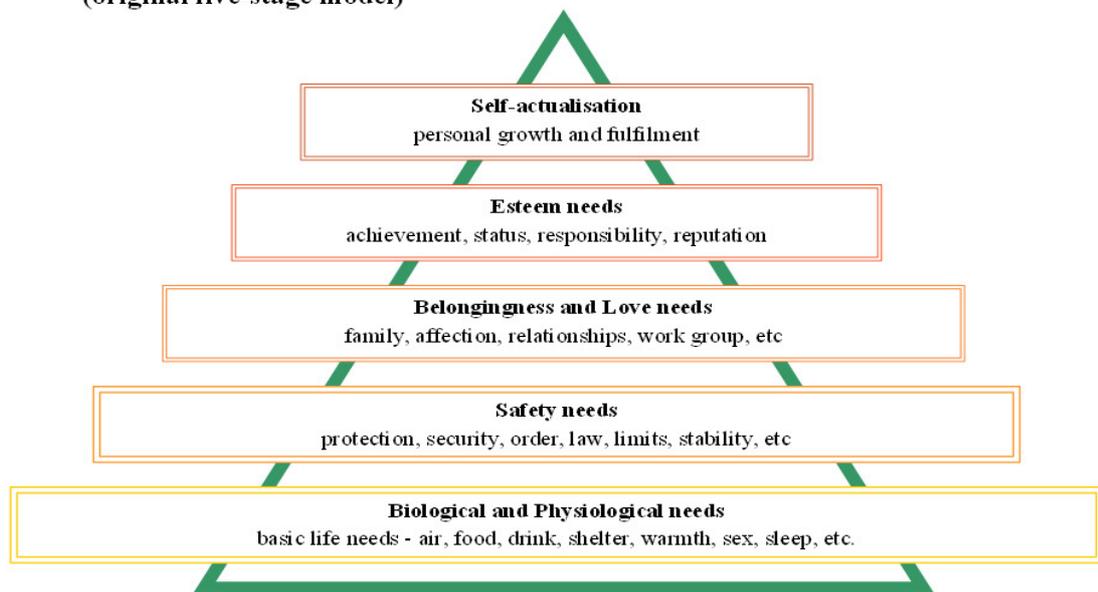


Fig. 2.5 Maslow's Theory of Hierarchy of Needs
Source:- <http://www.businessballs.com/maslow.htm> (24th July 2008).

It is difficult to define basic needs, as they will differ from time to time and from culture to culture. In developed economies, such as exist in Western Europe, these needs will be such as monetary rewards, material success and possibly most important of all, job satisfaction, which of necessity, will differ from those in parts of the under-developed world. All this will reflect in the drivers that cause people to learn. However, in the Further Education sphere, and doubtless in other areas as well, there is evidence that people learn most effectively when there is a definite link to the practical aspects of their working lives. This could well be as the result of a filtering process that only selects the 'need to know' information from the 'nice-to know'.

Case Study

The question of motivation is a very important one when it comes to technical vocational training. This is especially so when the target audience is experienced professionals, who operate with considerable autonomy and exercise statutory powers on behalf of the State. The people concerned can display an attitude that clearly indicates that given their experience and the type of position being held, there is nothing, or at the worst very little, that anyone can tell them. It is with experience and careful course design that this perception can at least be dented if not removed. One method that was used successfully was to introduce a simple problem, often a calculation, near the start of the course. This normally had the effect of making students realise that their knowledge or at least recall of some of the basic principles was not as good as they imagined. It is only after this has happened that the real learning can begin. Motivation at this level can be created and maintained by the use of an open style, complete honesty and as much interaction as possible.

An important concern is to ensure that the students have the academic ability and/or the experience to benefit from the standard of the courses. This may require an Access Statement, which will detail any pre-conditions that have to be fulfilled before the course can be undertaken. Lack of this precaution might place trainees in a situation where they were out of their depth with unfamiliar material with the resulting embarrassing and de-motivating experience.

Step 4 Programme related including Staffing, Qualifications and Environment

Staffing

All the best course development and planning humanly possible will be to little or no avail if the delivery, that is the transfer of information from teacher to student, is at fault. Like all interactions between human beings, this is a complex business, involving both the personality and skills of the trainer, or facilitator, together with the teaching environment in which the training takes place and the willingness of the trainee to learn. It is a thought-provoking fact that no one can teach in a State School without the recognised teaching qualification (Certificate of Education or a Post-graduate Certificate of Education) but only recently has such a requirement applied to the FE sector, at least in England. In Scotland the situation is different with FE tutor required to gain a Training Qualification in Further Education (TQFE). The historical reason for this has undoubtedly been the difficulty of locating the combination of the industrial skills and the willingness and aptitude to pass these skills on. To improve the situation, regulations were introduced in 2001 (*S.I.No.1209 Further Education Teachers Qualifications (England) Regulations*) but these were found to be ineffective and the

Government took the decision, after a series of critical reports, to introduce further regulations. They were outlined in an Ofsted report in 2003, a DfES report in 2004 *Equipping Our Teachers* and a FE White Paper in 2006. After this date trainers in the sector will be expected by 2009 to have qualified or be actively working toward a stipulated qualification. (*S.I.2007 No. 2264 – The Further Education Teachers, Qualifications (England) Regulations 2007*). This is already a requirement in Scotland. It will be interesting to see how these changes will affect the recruitment of trainers in the more specialised areas where there is already a shortage. There is the usual ‘grandfather’ clause allowing those already working to continue but trainers new to the profession will have to be fully qualified. However it is understood that it is only tutors working in ‘Institutes of Further Education’ who are effected, although other providers are free to insist on the qualification should they consider it advantages.

Even before these new regulations appeared, the Chartered Institute of Personnel Development was promoting a Certificate of Training Practice. Some organizations had made this qualification a condition of employment. The MCA made this a requirement for all new tutors and assist staff with resources to achieve the award. It could be said that there is little that can be done about the personality of the trainer, but that is not doing justice to the effect that training can have. After all one of the classic definitions of training rather than education, is that training aims to cause a change in behaviour. This could be considered too simplistic a statement as there has been much debate on the difference, if any, between the two concepts. It is true that both activities are intended to change behaviour and it could be argued that training is aimed at short term, immediate needs and education for a longer period. This definition would certainly describe the thinking underpinning the MCA Training Programme.

The personality of the tutor is as important as or more than the possession of a teaching qualification. A trainer, to be successful at this level, must be able to demonstrate credibility, both in the delivery and knowledge of the subject matter. It is probably true to say that the underlying character of a person is difficult or impossible to change, although identifying and becoming aware of faults is part of the training process. Once these faults have been discovered and more importantly accepted, for what they are, then steps can be taken to devise corrective techniques.

Finally, to maintain overall competency there is a need to engage in Continuous Professional Development (CPD) a requirement of many of the professional Institutes and encouraged by many employers. This is a practice that has come to prominence in recent years with the realisation that the rapid rate of change, in many sectors, was placing many previously well-informed individuals at a disadvantage.

.....while recognizing the necessity for a profession to insist that a certain standard of skill be demonstrated by means of some kind of examination, it also acknowledges that 'professionalism' goes beyond an initial body of knowledge and skills. It demands that those practising within the profession be given education and training in relevant skills, and that good practice should be promoted; in other words a commitment to CPD is an essential part of being a 'professional' (Armitage, 2003, 37).

The criterion of what exactly constitutes CPD and how it is recorded seems to vary slightly from organisation to organisation. However a typical format would be that adopted by the Scottish Qualifications Authority (SQA) where evidence has to be provided of professional development. This has to be in the form of being able to demonstrate that professional competence has been updated and enhanced. A list is provided of suitable activities and at least two have to be undertaken in the ensuing

twelve months. This example pertains to the External Verifier Role and the activities mentioned are:-

- a) Attending at least one External Verifier induction/training event run by an awarding body.
- b) Shadowing an experienced External Verifier on at least one centre visit.
- c) Engaging with collaborative work with SQA, undertaking activities such as review and improvement of external monitoring systems.
- d) Undertaking study related to your role.

The Royal College of Physicians operate a more comprehensive scheme running over a five-year cycle. This works on the basis of collecting CPD points which are awarded for agreed activities. These are classed as either Clinical and Non-clinical and further subdivided into Personal, Internal and External. There is a requirement for a minimum target of 50 CPD points per year with a detailed set of rules as to how this amount is calculated. (Royal College of Physicians, 2007) Another example is that pursued by the Chartered Institute of Personnel and Development (CIPD), who regard CPD as a combination of ideas and techniques with the caveat that ‘one size does not fit all’. However the principle underpinning the approach is that of reflection, focused on outcomes and results rather than ‘things done’ and ‘time spent’.

Within the National Vocational Qualifications, it was envisaged that the Internal and External Verifier should not only hold the requisite A and V qualifications, but should also be able to demonstrate that they have engaged in activities towards their CPD.

Each NTO (National Training Organisation) or standards setting body has within its assessment strategy clear requirements for professional updating of its participating assessors and verifiers. For the assessors and verifiers of A and V awards, this is a minimum of two updating activities per year (Tucker, 2004, 71).

It can be seen that a common thread through the whole concept of CPD is that it is evidence based. CPD can be viewed as a concept to encourage professional development rather than a rigid format to be followed in all circumstances. This CPD requirement is not an onerous development, especially for those whose day-to-day work is connected with training and education.

Case Study

There is strict control over the staff/student ratio by the Course Director and the support staff. In practice this is sometimes governed by the amount of equipment available, such as with marine simulators, or in discussion with the course provider, with most training events limited to between 6 and 12 attendees. There is often sufficient funds in the budget to be able to arrange further training should this be required, but cannot be guaranteed. The training staff are carefully selected for industrial experience and teaching ability. All the in-house staff are expected to gain the Certificate in Training Practice from the Chartered Institute of Personal Development. External providers have, as part of the contractual obligation, to submit details of the staff who will deliver the training. In addition, it is vital that the trainer has credibility in the sight of these highly qualified professional students. This latter aspect often means that to employ people of the necessary calibre, the costs can be relatively high. The overall aim is quality rather than quantity.

Qualifications, competency and knowledge

A term that has been used frequently, so far, in this thesis is ‘knowledge’. This is because it is knowledge that is being transferred from tutor to student. There is a considerable body of literature published on the exact meaning of this word. An

exploration of the interpretation placed on this word by some of the prominent writers on the subject is of interest and an aid to understanding. To prevent confusion it would also be useful to define some of the other terms in use. The branch of philosophy that is concerned with the study of the nature, origin and scope of knowledge is *epistemology*, from the Greek words *episteme* (knowledge) and *logos* (word or speech). The term ‘data’ refers to raw information, whereas ‘knowledge’ is the way in which this information is used, but the application or purpose for which this is employed, falls into the realms of ethics and morality and as such is outside the scope of this literary search. Knowledge can be further defined as:- “*the facts, feelings or experiences known by a person or group of people, the state of awareness, erudition or informed learning*” (Collins. 2006).

However, an exact definition or explanation of knowledge has troubled thinkers for several millennia. Plato, in *Theaetetus*, written in 369BC, at a question and answer sessions with, amongst others, Socrates, offers three analyses of knowledge. First that “knowledge and perception are the same”; second that “true belief is knowledge” and third that “true belief accompanied by a rational account is knowledge”. All of these Plato has Socrates reject as falling short of an adequate answer. (Standford. 2005) According to Plato, in his work *The Republic*, knowledge is a subset of that which is both true and believed.

As a further complication, various authorities make distinctions between what is described as “types” of knowledge. Philosophy uses the term *priori* and *posteriori* to describe two distinctly different forms of knowledge, with *priori* classified as the knowledge acquired without needing to observe the world, and *posteriori* based on

empirical knowledge gained from observing or interacting with the surrounding world, in some manner or other. Other descriptions differentiate between descriptive and declarative or propositional knowledge, which is the difference between ‘know-how’ and the ‘knowing of’ how something should be done. Authorities writing in different subject disciplines introduce specialist models together with a nomenclature for knowledge that appears, to the non-specialist, over-complicated and difficult to comprehend and assimilate. Each of these models has been developed to suit the needs of a particular application and would not be suitable, at least at first sight, for adaptation, to suit the requirements of education. This is just a reflection on the complexity introduced with the advent of knowledge management which itself has generated its own selection of knowledge types such as, tacit or perceptual, knowledge and lastly theoretical knowledge being a selection of those mentioned (Jorna, 2001). One study, produced as part of a paper commissioned by the Swiss Federal Office for Education and Science, goes as far as dividing the knowledge into six different classifications. This consists of:-

1. meta-knowledge which is taken to be general and cultural matters such as life long learning and is knowledge about knowledge, milieu is knowledge about the local environment such as local peer groups and the management system at the place of work,
2. contingent knowledge is the day-to-day acquisition due to on-the-spot learning specific to the local environment,
3. tacit knowledge has been encountered before as is the informal rule and ideas that constitute the ‘know-how’ mentioned in the OECD Report,
4. next comes informal knowledge which covers such things as “tricks of the trade” and “rule of thumb” and as such can be written down or transmitted orally,

5. formal knowledge, on the other hand is the formulae and theories that are available in the textbooks, which can be either short- or long-term in currency and lastly,

6. instrumentalities is concerned with knowledge embedded in machines and instruments relating to the knowledge of how to build and use them. (Swiss Federal Office for Education and Science. Report section 4.1,1, 1996)

The Organization of Economic Co-operation and Development (OECD), devised a knowledge codification, which describes four types of knowledge, *know-what*, *know-why*, *know-how* and *know-who*. *Know-what* refers to knowledge about facts and as such is very close to one of the definitions of information and is associated with those, for example, who are in the medical and legal professions. *Know-why* is dealing with scientific knowledge such as the physical principles and laws of nature and as such would be associated with those in research centres and universities. The term *know-how* refers to the skills or capability to do something and would apply very much in the practical or vocational field of work in which Further Education operates. Finally there is *know-who*, the building of a network of contacts, a vital aspect in establishing social relationships and of great importance in many areas of business and management in general. It is the first three types that it is possible to assess in some form or other, but as the field of investigation is vocational it is *know-how* that is important here (OECD.1996). This links in with the notion of there being only two types of knowledge, “explicit” and “tacit” an idea expounded by Michael Polanyi (1891-1976). His clear and simple concept was that knowledge would fall into one of these two groups. Explicit knowledge is seen as recorded knowledge that is kept in some form of retrieval system and as such was available for the use of everyone and, provided steps were taken to

keep the material current, would be valid for some considerable time. It is public knowledge in the sense that it does not reside solely with one person. Tacit knowledge, on the other hand, is individual and therefore different with each individual as it is the product of varied experiences, biases, and beliefs to which human beings, consciously or unconsciously are subject. As it resides inside each one of us it is impossible to quantify in any meaningful manner (Smith, 2003).

Another source, when considering education, recognises six different knowledge types namely, situated scientific, theoretical scientific, situated praxiological, theoretical praxiological, situated philosophic and theoretical philosophic knowledge. These distinctions are centred around three notions; the scientific types are those that can be classified as “what is” that is the search for the truth; the “praxiological” being matters of utility, that is “what things are good for” and “philosophical” are those matters that can be classed as “ what ought to be” and represent things of intrinsic value (Frick, 2004).

It is clear from this study of the available literature that the identification and classification of the different types of knowledge is dependant on the areas to which the knowledge refers, and are discourses embedded in the language of the specific occupation. There are many other descriptions of different types of knowledge but to investigate in any depth is unnecessary and would become extremely complex. The assessment process under consideration relates to the vocational aspect of Further Education and therefore, for the sake of simplicity, is based around two concepts; one championed by the OECD of *know-what* and *know-how* and the other by Polanyi amongst others of *explicit* and *tacit* knowledge. Even though the concepts are worded

differently and have approached the subject from different directions they are essentially the same. *Explicit* knowledge is linked to *know-what*, that is the learning derived from recorded media and transferred through formal teaching and study, and *tacit* knowledge or *know-how* acquired through practice and experience and which cannot be taught or re-learned through the same channels as explicit knowledge. These, of course, are sweeping generalisations as there is inevitably an overlap between the two concepts. It is not to say that there are only two concepts of knowledge as clearly this is not so, but it does illustrate how complex this subject can be.

This discussion on the nature of knowledge links into the concept of competence, or how the student can demonstrate the ability to use knowledge at an appropriate level. Once again, it is found that there can be many different definitions or descriptions of competence as much depends on the context, in which the word is used,

competent adj. 1) in general, able to act in the circumstances, including the ability to perform a job or occupation, or to reason or make decisions. 2) in wills, trusts and contracts, sufficiently mentally able to understand and execute a document. 3) in criminal law, sufficiently mentally able to stand trial, if he/she understands the proceedings and can rationally deal with his/her lawyer. (The Free Dictionary, 2008)

Increasingly there is a growing awareness of the importance of key or ‘core skills’ also referred to as ‘transferable skills’, being those that enable other objectives to be realised more effectively than might otherwise be the case. These are such functions as interpersonal, communication, numeracy, problem solving and other attributes that will contribute to effective working. The Qualifications and Curriculum Authority (QCA) and its predecessor organizations worked to develop a list of six key skills that were considered of most importance:- communication, application of number, information technology, working with others, improving own learning and performance and, lastly,

problem solving. An example of such a development can be seen in the work of Dreyfus in 1986, noted for his work in the development of a Skills Model. This is used across the medical profession especially, and has been found useful in recognising, classifying and then developing management talent. (Fig. 2.6) It is nothing more than a description of the attainments for each level, which is not as straightforward as it at first appears. It involves linking the job descriptions or role profile with the skills required, both core and technical, and then deciding on the degree of ability required in each instant. The development and maintenance of the appropriate level descriptors is critical to the success of any programme, with care being taken to avoid ‘gold plating’ the requirement, that is specifying levels over and above that which is needed, resulting in wasted time and effort on the part of the learner. It can also rebound in the form of lost incentive with the realisation that the knowledge gained could not be put to any useful purpose.

Levels of competence and expertise

from the Dreyfus model of skill acquisition

Level	Stage	Characteristics	How know- ledge etc is treated	Recognition of relevance	How context is assessed	Decision- making
1	Novice	Rigid adherence to taught rules or plans Little situational perception No discretionary judgement	Without reference to context	None	Analytically	Rational
2	Advanced beginner	Guidelines for action based on attributes or aspects (aspects are global characteristics of situations recognisable only after some prior experience) Situational perception still limited All attributes and aspects are treated separately and given equal importance	In context			
3	Competent	Coping with crowdedness Now sees actions at least partially in terms of longer-term goals Conscious, deliberate planning Standardised and routinised procedures				
4	Proficient	Sees situations holistically rather than in terms of aspects Sees what is most important in a situation Perceives deviations from the normal pattern Decision-making less laboured Uses maxims for guidance, whose meanings vary according to the situation		Present	Holistically	
5	Expert	No longer relies on rules, guidelines or maxims Intuitive grasp of situations based on deep tacit understanding Analytic approaches used only in novel situations or when problems occur Vision of what is possible				Intuitive

Reproduced from National Council for Conservation-Restoration 2001a, based on Dreyfus, S E 1981 and Dreyfus, H L & Dreyfus, S E 1984.

Fig. 2.6 Dreyfus Model of Skills Acquisition

Source:- <http://hedc2.otago.ac.nz/meg/Educational-Support/Resources/Faculty-of-Medicine-Curriculum-Review-Conference-Documents/mainColumnParagraphs/010/document/Dreyfus.pdf> (24th July 2008).

Environment

Given that the term curriculum encompasses more than just the content and its evaluation, the quality of the teaching environment is of concern. Again referring to the Flow Diagram (Fig.2.1) it is important to remember that there is no one single factor that would constitute a successful course, from its inception to final delivery. It is another example of the process only being as strong as its weakest link. Therefore all aspects of the process will have an effect on the learning and the training environment is no exception to this. The training room should be a safe place both from a mental and a physical sense, both of equal importance. The aim should be to create an atmosphere where it is acceptable and comfortable to experiment, question, suggest and make mistakes, even in the presence of their peers. There should be the assurance that nothing said should find its way to higher management levels, without express permission of the participants. Again it is necessary to mention Maslow's Hierarchy of Needs, where, only if the lower needs of survival, security and shelter are satisfied, can the higher needs of learning and curiosity be satisfied. This may seem a simplistic way to view the situation but, consciously or unconsciously, these instincts originate from our evolutionary past. Such points as the correct temperature and lighting level, together with plenty of personal space and comfortable seating are vital to success.

Case Study

The training takes place in either the MCA own premises or at recognised Further Education colleges. The training facilities at the Training Centre are very comprehensive, with data projectors and the latest type of white board, which can print out a picture if require, during or at the end of the session. Therefore there is control over the physical conditions, especially as frequent visits are made to the

various establishments to check, not only on the progress of the various courses, but also where the training is being conducted

True genius resides in the capacity for the evaluation of uncertain, hazardous and conflicting information.

Winston Churchill, 1874 - 1965 :Statesman

Step 5 Feedback, Assessment and Evaluation (Refer Fig.2.1.)

Feedback

There would seem little point in designing or running a programme, in accordance with the required ethical principles and to a professional standard, then neglecting to include informative feedback, without which neither the student nor the tutor would be in a position to judge the result of their combined efforts. Feedback mechanisms, using the jargon of industry, can be referred to as either open or closed or alternatively negative or positive. A negative or open system is one where the results are considered satisfactory unless there is an indication to the contrary, in other words an attitude prevails of *'all is well unless I am told otherwise'*. On the other hand a positive or closed system requires a response, to indicate the condition found, in this case the reaction to the learning. Again, in the jargon of the control engineering industry, a closed-loop system causes an operational adjustment in response to the results of previous commands, and is to be preferred to an open loop system where there is no reference to the operational result. A closed loop or positive reporting system is more complex both to design and administer, but may produce greater results in the longer term. An example of the practical application of this concept is contained in the specification for the Assessment Criteria for the National Vocational Qualification (NVQ) standard requirements for Assessors under A.1.3 :-

“Ideally, this feedback will be given as soon after the assessment as possible, in a place where neither of you is likely to be disturbed. Arrangements for feedback should have been detailed on the assessment plan” (Tucker, 2004, 92)

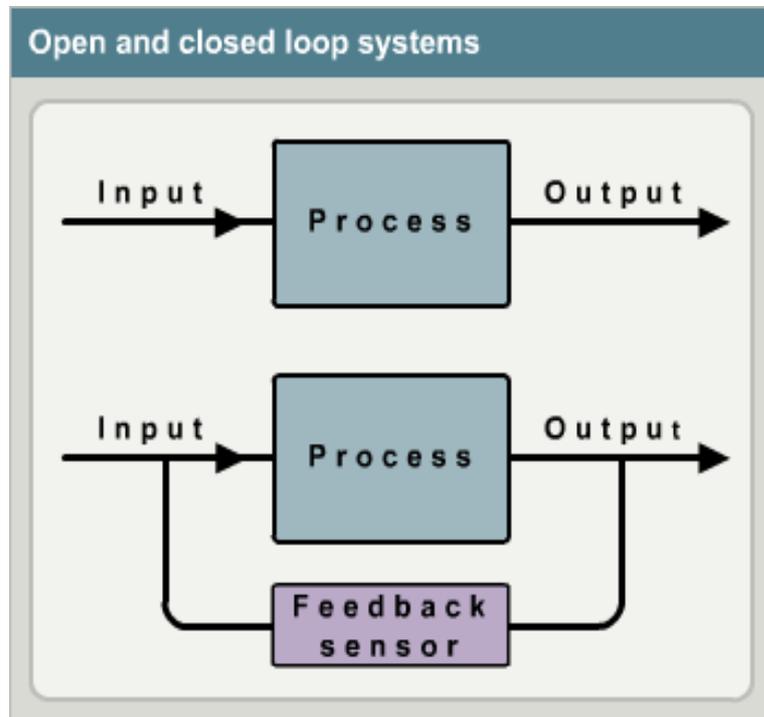


Fig.2.7 Diagram Illustrating an Open and Closed Loop system

Source:- www.bbc.co.uk/.../productionsystemsrev2.shtml (17th August 2008)

In the diagram (Fig 2.7) the difference between a closed and open loop system is illustrated. It shows how the feedback is fed back into the process input. In training, this feedback is gathered from the stakeholders and results in corrective action being inputted into the process. This shows how learning from experience, and modifying the result accordingly, can be effective and an example of good practice.

The notes contained in the following table are from the Quality Improvement Agency Excellence Gateway web site (QIA, 2007) and is advice given as a result of analysis of Inspectors Reports.

Good practice featured in inspections includes:

- --Getting feedback from learners/participants and others involved, on how they feel about the quality of training, and in particular how they think it could be improved.
- Using a variety of methods, not solely questionnaires. A group discussion can be more effective and draw more considered views from a greater number of learners/participants or staff.
- Making sure that all feedback is analysed and useful lessons are drawn.
- Taking action on the basis of feedback in order to bring about improvements. The feedback system is then a complete cycle and will lead to continuously improving training.
- Following up all suggestions for improvement, even if they will not be taken forward, so that confidence in the feedback system is maintained.

Table 2.3 Excellence Gateway, Feedback, Examples of Good Practice

Source:- <http://excellence.qia.org.uk/page.aspx?o=108295> (17th August 2008)

Case Study

Feedback from participants is an important part of the evaluation of the curriculum, its content and delivery. In the case of the MCA Training Centre the usual method of gathering this information is with a Course Evaluation Form, which is issued at the end of every course. The normal routine is to collect these forms before the students leave the training location. This practice has both advantages and disadvantages. The advantage is that there is almost 100% return of the Forms. This enables the associated paperwork such as the course analysis to be completed without delay. However, the

disadvantage is that as they are issued at the end of the course when students are eager to start the journey back to their home base. Consequently the feedback is recorded more in haste than as the result of a considered reflection.

The researcher's personal experience has shown that an oral debrief at the course conclusion is more likely to render information of value than that provided in a written format. This oral debrief also offers the opportunity for a two-way dialogue with the trainer given the opportunity to reply to comments raised. This can be beneficial to both student and trainers as topics could be raised which students might be reluctant to record on paper. However as with all methods, there are disadvantages. In the researcher's experience, the principal one is when, for some reason, the trainer's perception is that the course has not been well received. This could be for a variety of reasons, such as the result of poor delivery, inadequate preparation, incorrect or irrelevant content or a combination of factors. In such cases the comments can be in danger of being personal and generally destructive rather than constructive. A useful technique for this situation is to invite written comment over the following one or two weeks. This gives time for people to reflect in a calm environment and give a considered response and avoids the possibility of a clash of personalities amongst those concerned.

The collection of feedback, in itself is pointless unless some use is made and seen to be made of the information gathered. Ideally feedback should be gathered from all the stakeholders in the training process, that is the students, trainers and managers.

Assessment – Method, Timing and Memory

A small but nevertheless important part of curriculum evaluation is the assessment of the student's learning. The process of transferring knowledge from one person to

another is the principle purpose of the whole training exercise. Assessments of student learning can be carried out using a number of different methods, such as case studies, direct observations, both unseen and open book written examinations, multi-choice tests, performance projects, practical projects, problem sheets, self-assessments, simulations, group projects, essays, oral questioning after observations, portfolios, presentations, projects, short answer questions and viva voce examination (Atherton, 2003). Each of these has its own advantages and disadvantages and each is appropriate for use with students participating in different types of programmes. The implication of this is that there could be a need to design a specific assessment strategy for assessment of student learning, if not for each course then for groups of courses with similar structures.

In many cases the qualified status of professional staff is the central feature of an organization's quality-assurance system. The assessment system linked to the qualification must not only be capable of providing this assurance of competence but must be seen to provide it by both the public and employers of professional people. Thus an assessment system must be sufficiently robust to assure both the general public and employers of professionals that qualified persons are competent in certain designated areas of work (Eraut, 1994, 14).

A question that must be asked, when considering assessment of student learning is 'At what point in time should this take place?' There are some methods that must be considered as more sensitive to the passing of time than are others. In the instance of a short intensive course, assessment of learning often has to take place before the students leave the location. This can be for reasons of overall cost or practicality or a combination of both. Such assessments can often be considered more a test of information recall rather than of understanding. Another approach is taken in the case of part time taught courses, such as a Masters degree operated by many universities. Here the assessment are split into two parts, an end of course written submission, followed by an assessment in the form of an examination some time after the course

ends. Due to the time involved, the material has to be frequently revisited resulting in greater retention of information and by implication of understanding.

An alternative method, is the provision of a Work Book or similar portfolio of evidence compiled over a period of time. This method is the normal method of providing evidence in the case of Vocational Qualifications, especially where many individual competences have to be proved to a number of different assessors. In this case, the length of time involved, as a matter of practicality, is of less importance.

During this discussion of assessment frequent mention has been made of the involvement of memory in relation to time. At this point, for the sake of completeness, it could be helpful to explore the concept of memory and its implications together with the retention and loss (forgetting) of information. The work of Ebbinghaus is of some importance in this connection (Ebbinghaus, 1885). His original paper, which made extensive use of mathematics, advanced the understanding of the retention or otherwise of knowledge.

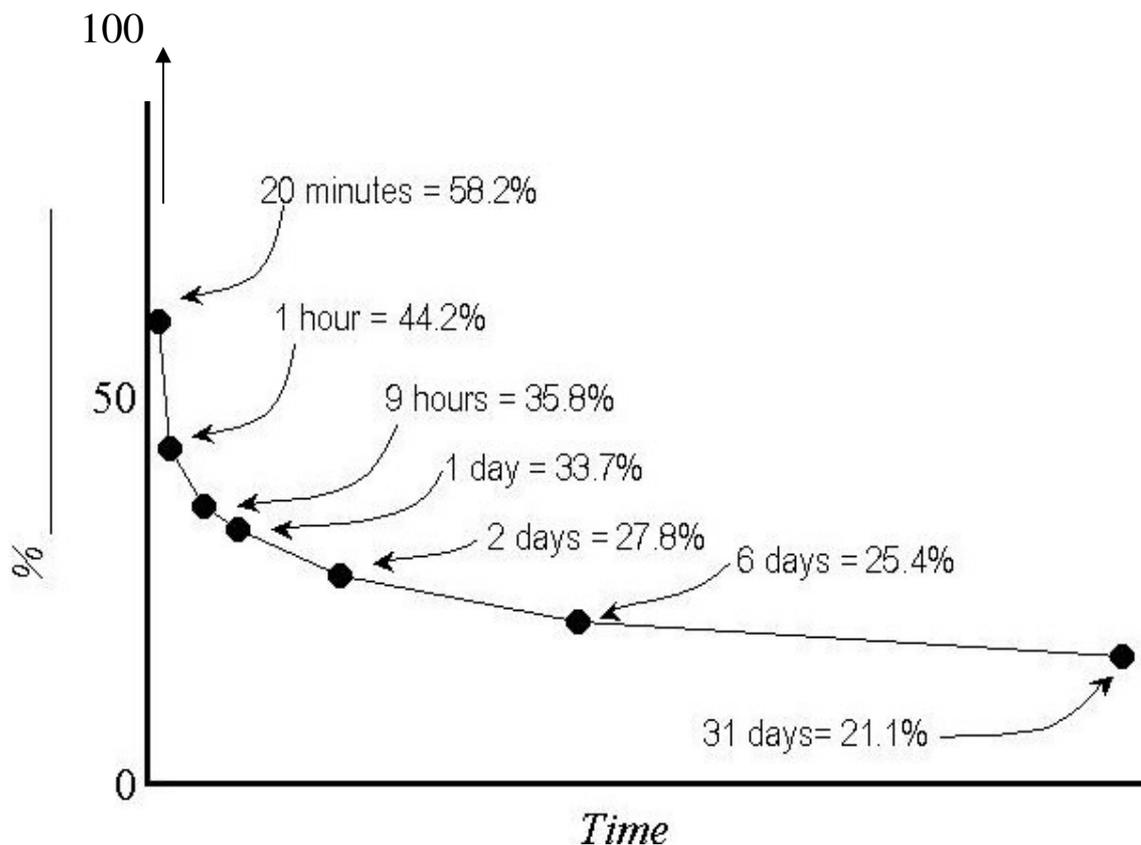


Fig 2.7 Ebbinghaus' Forgetting Curve.(Time /knowledge retention)

Source:- <http://www2.fiit.stuba.sk/~bielik/publ/abstracts/2006/ec-tel2006.pdf>

(17th August 2008)

The curve shown (Fig. 2.7), based on Ebbinghaus' work, clearly illustrates the dramatic fall in knowledge retention with time. The most dramatic loss occurred after the first day and the graph flattens out after that to a retention level of 21% after a month. Other researchers have looked at this research work and have come to similar conclusions. A partial solution to this loss is the use of refresher training, the effect on knowledge retention is illustrated in Fig.2.8. Here the technique used has been to repeat the training at increasing intervals. It can be noted that the indicators of knowledge retention increases after each repetition.

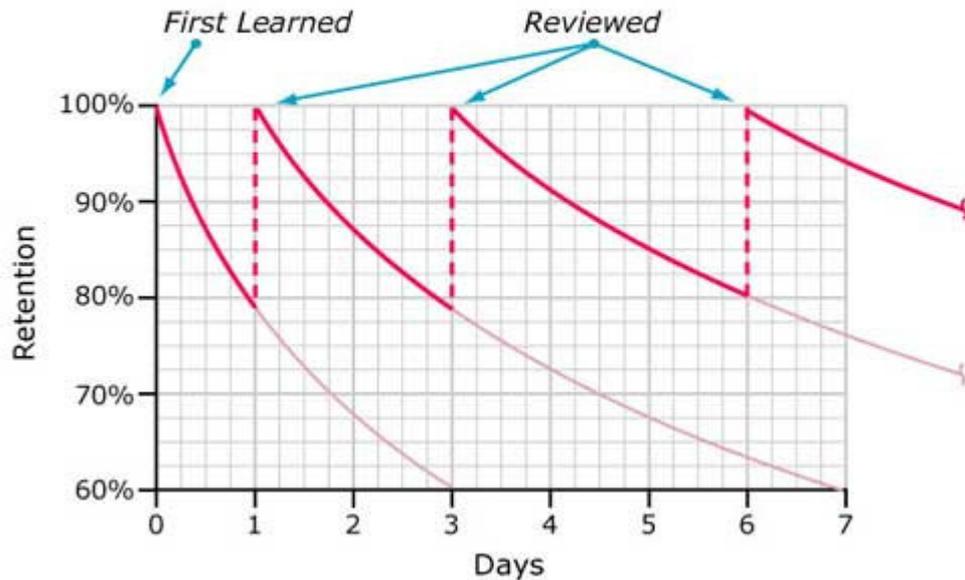


Fig 2.8 Typical Forgetting Curve for Newly Learned Information (Ebbinghaus)

Source:- <http://psychology.about.com/od/cognitivepsychology/p/forgetting.htm>

(17th August 2008)

With these effects in mind, the fundamental question of timing remains. It would seem to be a valid argument, therefore, to delay any measure of student assessment, as envisaged in Kirkpatrick's Level 2, until at least 30 days after the event. In practice, with a mobile workforce, this may not prove possible, but the adverse effects on the results should be kept in mind. However it should not be overlooked that Ebbinghaus's work also showed that the regular application of the knowledge, or the repetition of the training greatly enhanced the retention period

Case Study

A critical judgement involves determining the suitable ability level expected e.g. a junior team member would not be expected to display competence to the same level as the Team Leader. The almost universal approach is to use a numerical scale ranging from 0 up to as much as 12, depending on the degree of definition and the level of academic attainment required. The literature provides many examples of the different

scales in use, such as the NVQ system, with a scale from 1 to 5 (Key Skills Guide. Engineering Centre 2005). The organization being used as a base for this study, the Maritime and Coastguard Agency (MCA) uses a numbering system ranging from 0 to 4, with Level 0 being no knowledge at all to Level 4 being an expert or to be more precise the person to whom others would approach for advice. (Appendix 1). The Scottish Qualifications Authority (SQA) use a scale of 1 to 12 and the National Qualifications Framework (NQF) is developing a scale of from 1 to 8. The levels by themselves are meaningless but when grouped together form a picture of the whole, commonly referred to as a Skills Model.

Evaluation

This is a process of gathering as much information as possible to determine if the course is achieving the Aim or Outcome envisaged by its creators. However, it would be unrealistic to conduct a comprehensive training evaluation in one operation as this will involve considerable resources. A more practical approach could be that instead of asking ‘Is this fit for purpose?’ one should ask ‘What information do I need?’(Reece, 2000). Two possible levels of evaluation should be considered; that of the programme or course and a more far-ranging option of evaluation of the curriculum itself. Programme evaluation deals only with the content, process and delivery of a programme, whereas curriculum evaluation considers the wider issue of whether or not, it fulfils the intended purpose. Formative evaluation, which can be also referred to as internal evaluation, is a way of judging a programme’s value and would be used during the training. On the other hand summative evaluation, is concerned with outcomes and is therefore conducted after the training is completed. Another writer has also considered two approaches (Armitage, 2003) for the same reason, that to evaluate a

course in its entirety would be too great a task for most people to undertake. He suggests that the task can be viewed in one of two ways; firstly by the *events* that should be happening on the course, such as achieving aims and objectives, the outcome for the learner and whether the balance is right. Secondly by the *quality* of what was happening such as organisation of the event, the learning experienced, motivational factors and the levels of attainment. This, it is argued, will identify the important points of enquiry.

Following on from this there is a choice of one of three models that could be used which are:-

1. Scientific evaluation. This treats the students' learning as an experiment and is only interested in measuring the effectiveness of that learning. Tests are carried out, which produce quantitative results and would be useful for developing statistical records, before and after the training, together with test results from a control group. The drawback is that this attempts to reduce learning to an exact science and the results to facts, is an approach, which can be difficult to substantiate.
2. Evaluation via behavioural objectives. This method also views the learning as an experiment. However, this is aimed at measuring everything in terms of behavioural objectives, not always an easy thing to do and could be regarded as too simplistic. This model will produce data in a quantitative form similar to the model above.
3. Qualitative evaluation. This approach is more in line with the thinking of the social, rather than the pure, sciences. The purpose is to produce a more rounded, holistic approach, to evaluation, aimed at giving a better appraisal of the course than the first two methods mentioned. (Armitage, 2003,233)

The literature contains a number of other models for course evaluation. Kirkpatrick's model (Table 2.4) is probably the most widely known and used, at least in part and has been the subject of much comment over the years. His model envisages four levels:-

Level 1 Reaction. This covers the immediate reaction at the end of a course, usually presented in the form of the so-called 'happy sheets'. Personal experience has shown that this reaction can be affected by factors unrelated to the course and are not necessarily a true reflection.

Level 2 Learning. Here Kirkpatrick intended that the actual learning achieved could be measured in some manner, possibly by means of a performance test.

Level 3 Behaviour. A popular definition of training is that it is evidenced by a change in job behaviour, e.g. an improvement in a skill. This can be difficult to demonstrate, especially if the skill is only used occasionally or, in the example of the Case Study, where the trainees operate mostly in a solo capacity, remote from direct supervision.

Level 4 Results. This is where it becomes very subjective as this level is concerned with the Return on Investment (ROI). There are no standard formulae on which to base this calculation but it would not be difficult to develop one for an organization's internal use. However at best the end result would be a relative value rather than an absolute one.

This model has the advantage of being simple to operate and understand but suffers from the disadvantage that it can be said that each level builds on the association with the layer before, in effect forming a hierarchy of importance. There is a point of view that it mixes the idea of assessment with that of evaluation which certainly has some

merit (Tamkin, 2002). There is evidence from the United States that Levels 1 and 2 are widely used and Level 3 and 4 much less. The figures from the American Society of Training and Development show, in terms of courses evaluated, that the returns are:- Level 1, 92%, Level 2, 34%, Level 3, 11% and Level 4, 2%. While no figures are given for the number of courses in the study or the time and place when they were conducted, and even if not statistically accurate, the results are nevertheless in line with expectation and personal experience (Watkins,1998).

Later commentators have attempted to build on Kirkpatrick's work and a range of models have been published, which have been referred to as Kirkpatrick Plus, giving different interpretations and adding an extra Level. This five Level approach has been used by Hamblin, in 1974, who considered that while the first Levels should remain valid, Level 4 should refer to the effect on the organisation and Level 5 on what he called 'Ultimate value' – the financial effect on the organisation and the economy in general. Hamblin considered his work as making Kirkpatrick's model into a hierarchy, something that the author did not consider the model to be (Tamkin 2002). A further development was the result of work by Kaufman and Keller (1994), who argued that as the world economy was changing so rapidly, an extra dimension should be added to the standard model to reflect this (as quoted by Tamkin, 2002). The result was the Organizational Elements Model (OEM) which would link together the process, product, products outputs and outcomes of organisations activities. In its original form it was widely used for strategic planning and as a tool for conducting needs assessment.

Another approach is the Evaluation Phase of the Instructional System Development (ISD) which again has its origins in North America. ISD is intended to cover the whole

process from the initial Needs Analysis through to ultimate measuring of performance, and should be used, as with all these models, to identify and correct problems, not as a vehicle to apportion any sort of blame. Fig 2.9 shows how this phase of ISD is structured.

Level	evaluation type (what is measured)	evaluation description and characteristics	examples of evaluation tools and methods	relevance and practicability
1	Reaction	reaction is how the delegates felt about the training or learning experience	eg., 'happy sheets', feedback forms also verbal reaction, post-training surveys or questionnaires	quick and very easy to obtain not expensive to gather or to analyse
2	Learning	learning evaluation is the measurement of the increase in knowledge - before and after	typically assessments or tests before and after the training interview or observation can also be used	relatively simple to set clear-cut for quantifiable skills less easy for complex learning
3	Behaviour	behaviour evaluation is extent of applied learning back on the job - implementation	observation and interview over time are required to assess change, relevance of change, and sustainability of change	measurement of behaviour change typically requires cooperation and skill of line-managers

4	results	results evaluation is the effect on the business or environment by the trainee	measures are already in place via normal management systems and reporting - the challenge is to relate to the trainee	individually not difficult; unlike whole organisation process must attribute clear accountabilities
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Table 2.4 Kirkpatrick's four levels of training evaluation

Source:- <http://www.businessballs.com/kirkpatricklearningevaluation> (17th August 2008)

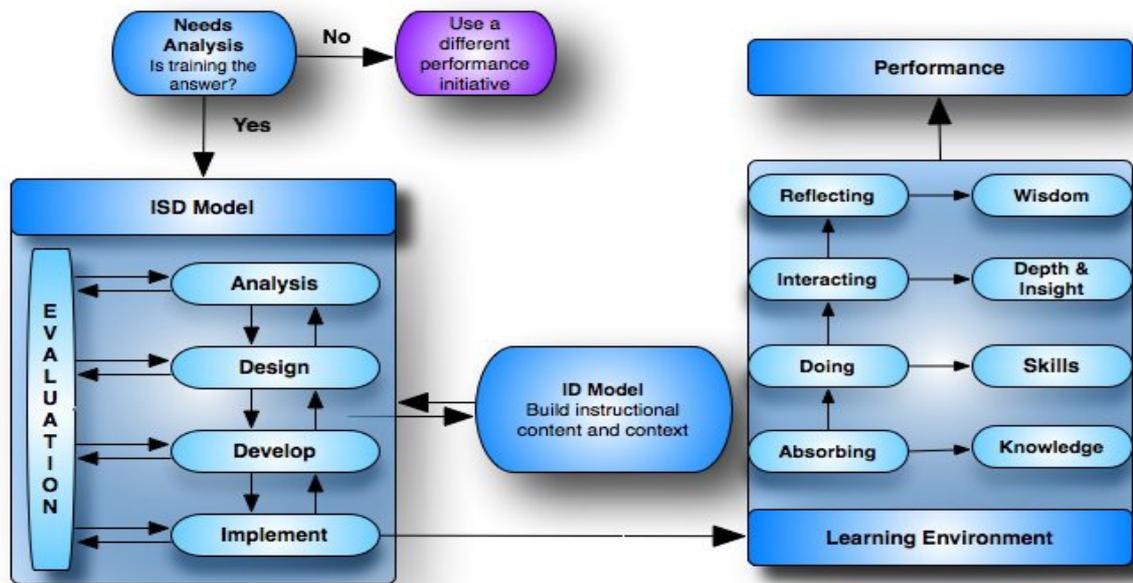


Fig. 2.9 Instructional System Development – Evaluation Phase

Source:- <http://www.nwlink.com/~donclark/hrd/sat6.html> (17th August 2008)

A further distinction can be made between the Reactive and Proactive processes. Kirkpatrick’s Levels 1 and 2 are Reactive, they are gauging the effect of the training, at or shortly after the end of the course. Whereas Levels 3 and 4 can be described as proactive in that they are the evidence needed to initiate changes that will prevent problems or improve the programmes for the future. However, it is accepted that the difference between the two approaches is not always easy to identify.

Other models worthy of further consideration are the Goal-free Evaluation, CIPP, the ALBSU model together with the Adversarial Approach. Goal-free Evaluation is an idea conceived by Michael Scriven, in the 1960s, who considered that value was at the heart of any evaluation process. He proposed that anyone undertaking evaluation should be unaware of the programmes objectives and should only report on the achievements and benefits observed. This would seem an idealistic way of viewing the matter as the

majority of course evaluation will, of necessity, be carried out 'in-house'. However, it does have the distinct advantage of being able to take into account the adult learners' experience and any results or consequences that the program designers did not intend or foresee. This factor places Scriven's idea in line with the learner centred approach.

The CIPP model was developed by Stufflebeam (1971) as a response to the failings described in Tyler's model. He proposed that it was important to consider the origins, implementation, continuing operation, as well as the final achievements. In his view equal weight should be given to the formative as it is to the summative approach. Therefore his model takes account of the Context, the Input, Progress for those involved and finally the Product of the programme. The inclusion of Context is of interest as this would include the social and political background to the identification of the need, a factor the other models do not take into account. However, a major drawback with this approach is the considerable resource implication, both in time and money, to achieve a result as required by the CIPP model (Brookfield. 2001).

The ALBSU model is concerned with Input, Process, Outputs or Outcomes. Imported from the United States, where it has been used successfully and has been employed in the UK, and became closely associated with the 'intensive family literacy programme. It is named after the Adult Literacy and Basic Skills Unit where it was developed. This is an example of an educational model that has been developed for a specific task. The Adversarial Approach is of interest in that it would appear, at first sight, to be a departure from traditional thinking. This model works along similar lines to the criminal justice system, where one side will act as an advocate for the curriculum and another side will adopt a contrary position. This, in a way, is the method employed at present, with

arguments going backwards and forwards on the merits of one point or the other, only this involves two people or even two teams to formally develop and debate the arguments. This idea has not gained wide acceptance, possibly as it involves a level of formal debate that is not appropriate to evaluation in the normal education environment (Worthen, 1990).

The models investigated demonstrate some of the diverse approaches that have developed over time, influenced by the changing requirements of the sector and the emergence of new ideas. It would be wrong to single out any one factor in the evaluation process that is more important than another. It is a matter of the whole being greater than the sum of the parts. However, the content is crucial to the outcomes. Those who read this thesis will have experienced occasions during their learning, when there has been a requirement to study material which at the time or with hindsight was shown to be irrelevant, outdated, or, just plain impracticable and the subsequent negative effect on motivation.

A glance at the flow diagram (Fig.2.1) indicates that the next item of interest is the point at which the course evaluation should be undertaken. There can be no hard and fast rule as there are likely to be a number of variables such as the frequency of the event, the complexity, the length of time the course has been established and when major changes have been made. There is no doubt that the passage of time affects perception of past events. The practice of the MCA in requesting feedback after four months would seem a sound one, but with the very serious disadvantage of lack of response. The purpose of the evaluation exercise is, after all to determine if the course is fit for purpose. At the precise moment in time that this judgement is or should be made is a matter for debate.

There would appear to be little in the available published literature on the question of timing. This indicates either that it is not considered a point worthy of serious academic debate, or that it has been accorded a low priority. It is clear, using the most popular model, Kirkpatrick, that Level 1 should be undertaken at the end of the training, as mentioned elsewhere in this thesis. Personal experience shows that it is very difficult to retrieve the completed forms once the trainee has left the training event. Level 2 covers the Learning, which could be confirmed by the use of end of course tests, submission of an assignment at a later date, or taking a formal examination, again at a later date. In the case of a short course, by which is meant from one day to one week, it is often a case of testing memory rather than understanding.

Case Study

An expression that has been used before in this thesis is 'fit for purpose', meaning is the scheme suitable for the task for which it was designed. A more comprehensive definition would be :-

Part of this process is to identify the perceived weaknesses in the training schemes. A major weakness that has been identified in the 2007 Scheme, and the earlier one for that matter, is the nature of the evaluation strategy. The process at present lacks a cohesive structure:-

- a) the information gathered from the Course Evaluation Form, is not analysed and used to any significant effect,,
- b) information gathered from the 4-month questionnaire, Application of Learning, is not analysed or used,
- c) feedback from individual staff to the Line Management does not get passed back to the trainers and,

d) lacks a formal structure for a Course Review Panel. Such a Panel would consist of stakeholders in the training whose function would be to keep all aspects of the curriculum under review. The members or stakeholders would be drawn from trainers, students, subject experts and managers.

Conclusion

The main topic of this thesis is a case study of professional training for the Maritime and Coastguard Agency and this literature search has been undertaken to identify some of the previous work on the development of curriculum and its subsequent evaluation.

As stated at the beginning of this chapter, the purpose has been to explore the work of prominent thinkers in the field of curriculum and its evaluation and how this has been linked to the MCA professional training. On initial investigation it is clear, that the available literature refers to several distinct but related student groupings. The bulk of existing work is centred on the compulsory pre-16 age population, followed by the 16 – 18 age group, students engaged in Higher Education and finally those engaged with Further Education including Vocational Training. It is the last group that is of interest in this thesis. The resources available include Reports, from the United Kingdom Department for Education and Skills (DfES), which after June 2007 became the Department for Innovation, Universities and Skills (DIUS). Reports produced by inter-governmental bodies such as the Organization for Economic Co-operation and Development (OECD) often highlight areas of interest. The considerable contribution to the body of academic knowledge by the many books produced by authorities in the field, must be regarded as a valuable and long lasting resource. There are many peer reviewed articles, from professional education journals, which reach a limited but informed and

influential readership in many countries, and are available on the World Wide Web. In addition there is a great deal of internet published material, the quality of which has to be scrutinised before the evidence can be considered reliable. Only sources that have been peer reviewed have been used.

In the search for information, there are some personalities who stand out as thinkers and contributors to practice in this field: Tyler and Jessop with different views on Aims and Outcomes, and Bloom on the selection of goals without the need of a strict hierarchy of steps. Additionally Maslow presents a hierarchy of need to help understanding the learning process, a feature reinforced by the work on memory by Ebbinghaus.

The layout of the chapter has been designed to allow a logical progression through the subject of curriculum and its evaluation. It may appear that too much emphasis has been placed on all the other detailed factors, to the detriment of overall evaluation. During the early stages of this literature search it became clear that an investigation into evaluation alone would not do justice to the subject. In order to evaluate to the maximum benefit, there has to be an understanding of the process being evaluated. The many separate parts that contribute to a successful curriculum are interlinked and the order in which they have been tackled can be questioned.

Chapter Three

Research Methodology and Data Collection

'To repeat what others have said, requires education; to challenge it, requires brains'

Mary Pettibone Poole, *A Glass Eye at a Keyhole*, 1938

This Chapter is concerned with the methodology underpinning the collection of primary and secondary sourced data and its subsequent analysis. , in relation to the Case Study. There are a wide range of methods that can be employed in the design of a research programme. Indeed, it may well be appropriate to use more than one research style such as a case study, action research, surveys or experimentation. This mixed methods approach may be suitable for some research programmes but the eventual design will be influenced by many facts, such as resources, time scale and the scale of the research and has to be judged 'fit for purpose'. In the case of this thesis, the choice was to employ a single style and develop a case study for the reasons set out below.

It provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories and principles. Indeed a case study can enable readers to understand how ideas and abstract principle can fit together.(Cohen, 2000,181)

Case studies are essentially concerned with the capture and analysis of activities of an organisation or individuals. They involve not only activities but also, at least to a certain extent the personalities involved. It is a holistic approach, meaning it is dealing, not only with the subject matter but also with the context in which the case study is found.

In the end, all this evidence needs to be woven into a narrative account, presenting a chain of evidence, i.e. each element or link in

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the account supported by or related to evidence of different kinds.(Burgess, 2006,60)

In general, the use of case studies is an opportunity to investigate and test the theories put forward by some of the theorists mentioned in Chapter Two. The results from the case study will undoubtedly be of value to those immediately involved. It is because each is a specific case that concerns are expressed by commentators that the potential results are not relevant to a wider audience. However, it can be argued that the lessons learned can be beneficial to similar professional training schemes used in other industries (Cohen,2000)

The method of collecting data will be influenced by the circumstances of the case. In the instance of this study, the diverse geographical nature of the MCA, has dictated that the only practical methods are the use of questionnaires and interviews, both face to face and by telephone. Given a more central environment, then methods such as observation might be appropriate and possible.

The aim is to collect as much secondary data as possible and by subsequent analysis identify those areas where additional research could prove beneficial. A primary research programme is then developed to obtain the necessary data which can be presented in a manner that readily identifies the salient points. At this point, for the sake of clarity, it is worthwhile revisiting the distinction between the two types of data being mentioned. Secondary data is that which is already in existence, often in the public domain and available for incorporation, with acknowledgement, in further work. It is normally the work of other researchers. Primary data is that provided by the researcher as original material.

The first step identifies secondary data available when the research commenced, in October 2006. The source was the MCA Training Centre who issued electronically, the Application of Learning Form (see Annex 3), to each student, 4 months after the end of the course. Its function is to enquire into attitudes towards different methods of assessment of student learning and curriculum evaluation. In addition, it collects the Line Manager's evaluation as to the perceived effectiveness of the training, both to a specific individual and to the organisation as a whole. The resultant data was correlated by the MCA Training Centre staff and the analysis was made available for examination and inclusion in this thesis. This source has the advantage of providing input from both the student and the appropriate Line Management.

After analysis of the returns, subsequent avenues of enquiry, linked to the Case Study, were identified. Two questionnaires were designed to follow up on where the analysis had indicated areas of further research were justified. The first of these was to explore aspects of assessment of student learning (Appendix 4) and the second into curriculum evaluation (Appendix 5). After consultations with the University supervisor, suitable questionnaires were developed and tested with a typical group of ten students, attending a single course. It is interesting to note that even with this precaution, it was soon clear that while the subject matter of each question was correct, the language used was inappropriate and misunderstood. The fault occurred because the language used, in the sense of terminology, was that of academia rather than that of those undertaking professional vocational training. This reinforces the importance of testing the material before being used to gather the data. Should a question, or questions found to be not

relevant, unclear or too difficult to evaluate or are subsequently omitted for some other reason, the whole of the data could be regarded as invalid.

Questionnaire Design

The Questionnaires are designed with the acronym SMARTER in mind, that is Specific, Measurable, Achievable, Realistic, Time bound, Ethical and Recorded as mentioned below:-

SPECIFIC – This is to identify how specific should or can the assessment criteria be drawn and how much is to be left to professional judgement.

MEASURABLE – Can the assessment of the outcome, the summative assessment, ever be capable of achieving a useful measure of learning or is a general indication, i.e. a grade, all that can be achieved?

ACHIEVABLE – There is little point in developing an assessment process that cannot be made to work in an operational context. The procedure should be as simple as possible otherwise it will be seen, using cost-benefit analysis, that the cost in terms of resources would be disproportionate to the possible benefits .

REALISTIC – This links in with Achievable where it is vital that the assessment requirements can be realized in an operational context, rather than have a design that appears to be comprehensive, but in practice proves to be unworkable.

TIME-BOUND – This could be a difficult or impossible factor to quantify. There is a danger, which cannot be entirely eliminated, that immediate reaction becomes entangled with efforts to determine the extent of the learning achieved. An example of this could be the statement that ‘I have learnt nothing from this course’, which is related to an individual’s reaction rather than their judgement of any learning that has occurred. In any training event learning will have occurred, even if it is only to reinforce or refresh existing knowledge.

ETHICAL – There should be an ethical dimension to the design so as not to offend either intentionally or inadvertently through the wording or implied meaning of the questions. This would include mention of sexual orientation, race or beliefs where it has no bearing on the subject being researched. The University of Nottingham, for instance, requires adherence to the British Educational Research Association Revised Ethical Guidelines for Educational Research (2004). The main trust of this is to reassure the provider of the research as to the purpose, use and identification of the information being provided.

RECORDED – To what degree should the results be recorded, for how long and who should have access to this information? These are matters that involve the Data Protection Act 1998 concerning the gathering and retention of data.

At this point it will be useful to look more closely at the purpose underpinning the reason of the inclusion of each individual question.

Questionnaire – Assessment of Learning

This questionnaire is designed to collect data on assessment relating to the learning achieved during short training courses.

Knowledge and Skills

Explanation for Question 1

This question is designed to draw attention to the whole purpose of assessment of the individual student's learning. It is intended to get the respondent to consider the main reason for assessing their individual learning. This is a topic that many may not have considered, nor indeed had any reason to consider, in the past. It indicates in a clear and simple fashion the style and direction of the subsequent questions.

1. What is the **main** purpose of assessing your learning during and after training:-
 - a) to provide evidence of a change in your ability to perform given tasks?
 - b) to confirm your competence against a set criteria?
 - c) both?

Explanation of Question 2

Having started the student thinking about the purpose, there is a possibility that they will have selected the first two options in Question 1 as being of equal importance. This second question forces a closer look at what they consider the main purpose to be.

2. **If both**, which is the most important?

Explanation for Question 3

Here the student is being asked to consider the assumed position that the main purpose was to improve ability, and suggest how this could be demonstrated. This requires a little thought as they are, in effect, being given ownership of part of the design process for future courses. There is also the opportunity to make suggestions outside the solutions offered. The inclusion of the reference to the Personal Performance Plan is to draw attention to the potential value of the Plan as a training aid. Its function is to decide the training needs for the coming twelve months, to track progress after six months and to record the results after the twelve month period. It is in effect drawing up and monitoring, a training programme for the coming twelve months. In fact, it is from these Plans that much of the training programme is devised.

3. If the **main purpose** is to improve your ability to undertake given tasks, how can this be shown to have occurred? (Circle the answer that is closest to your view)
- a) in the Application of Learning Form (Issued after 4 months)
 - b) reflected in the Personal Performance Plan (PPP)
 - c) self-assessed
 - d) suggest another method

Explanation for Question 4

Here again the student is being asked to consider a situation that they may not have selected from Question 1 but are being given the chance to input into any future changes. This gives the student an opportunity to indicate a preference for a method which they feel is practicable and effective.

4. If the training was for the purpose of **revalidating your skills**, how do you think the results should be assessed? (Circle the answer that is closest to your view)
- a) written examination
 - b) continuous assessment
 - c) oral examination
 - d) task-based assessment, by an experienced colleague.

Summative Assessment – This is a term used to identify a type of Assessment which places a value (mark/grade/pass or fail) on the learning achieved. It would normally be conducted at the end of the training.

Explanation for including heading

This explanation is included to take some of the mystery out of the necessary use of jargon, the technical terms used in education. The following question is based on an understanding of the term Summative Assessment.

Explanation for Question 5

The student is now being asked to consider how summative assessment could be conducted, or to suggest another method if they feel unhappy with the choice offered. Given the level of professional expertise in the student body as a whole, this is an important factor.

5. Do you think that the summative assessment should state:-
(Circle the answer that is closest to your view)
- a) a pass or fail grade

- b) a statement of 'competent' or 'not yet competent' in accordance with the assessment criteria
- d) another method. If so what?

Explanation for Question 6

In order to give some meaning to the summative assessment there should be some reaction generated in the case of failing to achieve the required standard. It is the attitude to various methods that is being explored to determine if an acceptable measure can be found. Should the method that is eventually introduced be in accordance with the professional attitude of the learners, it is more likely to be accepted as meaningful and not seen as a threat.

6. What **remedial steps** would be appropriate if a learner failed the assessment?

(Circle the answer that is closest to your view)

- a) retake the training
- b) report the result to Line Management
- c) take no action at all
- d) retake the failed part of the assessment

Attitude towards Assessment and Feedback

Explanation for Question 7

It is known from personal experience that many qualified and practising professionals can be uneasy with the whole prospect of assessment of their learning during or after training. Here the research is seeking to establish a measure of this feeling and how it may affect the learning process.

7. If assessment, in any form, was incorporated into a training course, would this affect your attitude to the training event? (Circle the answer that is closest to your view)
- a) very concerned
 - b) concerned
 - c) unconcerned
 - d) welcomed

Explanation for Question 8

This question is designed to explore attitudes towards the various methods of assessment of a student's learning.. If and when an assessment procedure is introduced, it will be better if the method is one that has general acceptance. There is also an opportunity for experienced people to make a contribution to the selection.

8. If we use continuous assessment, would you prefer:-
- (Circle the answer that is closest to your view)
- a) a written test
 - b) observations
 - c) oral questions
 - d) an alternative method. If so, what?

Explanation for Question 9

It is suspected that some people feel unhappy or uneasy with the concept of feedback in any form. This explores the general attitude to the whole question and its effect, if any, on the students learning.

9. Do you think feedback, in any form, **enhances your learning**? Please give reasons for your answer.

.....
.....

Explanation for Question 10

This is designed to investigate the student's feelings towards receiving the various forms of feedback, which is critical to putting in place an acceptable method.

10. How do you feel about :- (Underline the answer that is closest to your view)

a. assessing your own learning?

Difficult to do Uncomfortable Comfortable Welcome

b. receiving feedback from tutors?

Rather threatening Uncomfortable Comfortable Welcome

c. receiving feedback from your peers ?

Rather threatening Uncomfortable Comfortable Welcome

Explanation for Question 11

This final question seeks to benefit from the experience of the group by identifying the most acceptable form of feedback from the selection given.

11. Drawing on your own experience, what do you think is the most effective form of feedback? (Circle the answer that is closest to your view)

- a) oral
- b) written

c) oral with a written record

Questionnaire – Course Evaluation

Evaluation

Course Evaluation is to determine if training is 'fit for purpose'. This Questionnaire is designed to collect data relating to attitudes and options, which in turn will contribute to improved design of future evaluation forms.

Explanation for including heading

This questionnaire concentrates on the determination of attitudes towards factors that affect the implementation of the curriculum and the learning involved.

Explanation for Question 1

Keeping in mind that the student body consists of highly experienced professionals, the reaction to the knowledge of the tutor is of interest and relevant to future developments.

This could well reflect on the credibility of the tutor.

1. The tutor (underline the comment that is closest to your view)

How much importance would you attach to the professional knowledge of the tutor?

None at all

Would be useful

Important

Very important

Explanation for Question 2

As there is no requirement for trainers in the technical fields covered by the Case Study to hold teaching qualifications, but the importance that students attach to this matter is of interest for future planning

2. Is it important for the tutor to have a recognised teaching qualification?

None at all Would be useful Important Very important

Explanation for Question 3

This is included to determine if this aspect of teaching behaviour has been considered by the student and the importance that they attach to it.

3. Is it important for the tutor to use a range of instructional techniques?

None at all Would be useful Important Very important

Explanation for Question 4

This is part of a series of questions into the reaction of the students to the tutor. This will help in the future recruitment and employment of training providers.

4. Do you think the personality of the tutor has an effect on your learning?

None at all A little Important Very important

Explanation for Question 5

Most of the work undertaken by a surveyor requires a degree of task-based competence. The majority of the time the work is carried out remote from the base office and in a solo capacity. Given this situation, any method for the re-validation of competence needs to be seen as both fair and practical to be accepted.

5. Do you think that **a task-based competence** should be revalidated by attendance at:-

a course proof of actual practice same other method

Explanation for Question 6

As with similar questions included in the Assessment questionnaire this gives the student an opportunity to expand on the answer to the previous question, if necessary. It also gives the possibility for the group to benefit from the experience of others.

6. If some other method, please make a suggestion.

.....
.....

Explanation for Question 7

Several different views have been expressed on this subject and it is of interest to determine the reaction of students. Should pre-course reading is found to be worthwhile then the length, and thus the cost, could be reduced.

7. How would you use **pre-course** reading material:-

(Circle the answer that is closest to your view)

- a. I would read it before the course started
- b. I would catch up during the course
- c. To be honest, I probably would not read it.

Explanation for Question 8

These exercises are time consuming to develop and run and often require input from several tutors. This enquiry is to determine how the use of this teaching technique is received.

8. How important a part do you think that group table top exercises play in your learning?

None at all A little Important Very important

Explanation for Question 9

Training should take place in a 'safe' environment. Therefore any suggestion of placing students in situations where they may feel threatened in any way should be of concern. The attitude of the students towards this technique will assist the tutor when using such methods. That is not to say that in certain circumstances this would not be justified, especially if the objective is to demonstrate the effects of a certain type of behaviour.

9. Do you find the use of role play to be :-

No benefit Embarrassing Useful

The teaching and learning environment

Explanation for Question 10

This is included to provide an opportunity to put forward ideas often formed as the result of considerable experience.

10. What factors make a successful teaching and learning environment?

.....
.....

Explanation for Question 11

Here again the student is being asked to contribute through experience to the discussion on one of the many factors that make up a successful course.

11. What factors encourages a 'safe' learning environment where you feel you can make mistakes and learn from them?

Post and Pre-course Actions (Underline the answer that is closest to your view)

Explanation for Question 12

This question relates to the preparation and interest in training by the Line Management and to what extent this was found to be a benefit by the student.

12. Do you think that a **pre-course** discussion with your Line Manager is:-

Unnecessary Useful Important Vital

Explanation for Question 13

This is included to encourage comments on any aspect of the training process. It is suspected that this does not happen very often and the replies to this could be of interest in that direction.

13. Do you think that a **post-course** discussion with your Line Manager is:-

Unnecessary Useful Important Vital

Development of Interview Schedule

The primary data from both the Assessment and Evaluation Questionnaires was tabulated, analysed and then set out in Chapter Four. The use of a 'data box' plus 'pie chart' format was chosen so that the number of responses, percentages, comments and for each question could be easily identified. It should be noted that as the number of individuals in the study is limited, the percentages can show a distorted picture, but are useful to highlight where there is a significant inclination in any one direction.

The data from the Application of Learning Form was tabulated in a similar fashion in Chapter Four, but it was felt that inclusion of a pie chart with each response would not add to the presentation and was omitted. In addition, the data was assembled in a slightly different format from the primary research, in that figures were compiled from across the Organisation rather than just from the Survey and Inspection Branch. It was felt that as the data referred to technical training and was within the same Organisation that it was relevant and worthy of consideration. An additional factor is that this data was collected over a longer timescale and from a wider student base than was possible with the primary research conducted by questionnaire. The information was collected over a period from November 2005 to June 2007. During that time some 2,384 trainees were asked to supply data, of whom some 294 replied, a response of 12 %. This low figure was despite repeated attempts to increase the rate of returns.

The next step was to seek to confirm the findings as part of the triangulation process. As has been mentioned the Interview Schedule was developed from the replies received and designed to be as open-ended as possible, but at the same time following a structured approach. It was decided to use a very limited number of questions as it would be difficult to handle a greater volume of response, given the resources available. Should the research demonstrate a clear preference towards a single reply or direction, there would seem little to be gained by collecting more of the same.

The purpose underlying the selection of questions for interview was to concentrate on those parts of curriculum evaluation that it was felt warranted further investigation. In the event, the six topics chosen represent critical elements in the whole process.

A series of planned structured interviews, with Line Managers and other operational staff, was organised and took place over a three-week period in November and December 2007. However, there is a time and access constraint to the number of interviews that can be undertaken, partly caused by the many calls on staff time and partly due to the logistics of arranging interviews around locations that are geographically diverse. It was possible to arrange fifteen interviews with the interviewees chosen from across the range of staff involved with the training programme. This covered managers, operational surveyors and administration support staff. Due to the geographically dispersed nature of the Organisation it was only possible to conduct interviews on a face-to-face basis on six occasions. Therefore it was necessary to conduct the others by prior appointment on the telephone. In the interests of consistency, the interviewees were not provided with advance copies of the six questions involved, although they were naturally aware of the general nature of the topic. The reason for the research was explained and interviewees willingly gave consent for the information to be used for the stated purpose. All the interviews were tape recorded, with permission, and on the understanding that the recording would be erased once the necessary notes had been made. Recording was necessary due to physical limitations on the part of the researcher, preventing notes being made at the time. Anonymity of the sources was also guaranteed, in accordance with the required ethical standard.

Consistency has been mentioned and requires that all participants are allowed the same timeframe, the same questions and, if possible, in the same safe environment. Each interview took approximately 25 minutes and all followed the same format.

Interview Schedule – Course Evaluation

Explanation for Question 1

This seeks to gather information on the attitude towards the three methods of collecting feedback mentioned in the question. It allows the respondent a chance for free expression and to consider why they have chosen that particular method. The second part of the question aims to use the experience of the group to explore new ways of doing things. Asking for reasons for the comments, demonstrates that some thought has been given to the reply. It also gives some sense of ownership to the eventual recommendations that may emerge from the research.

1.Feedback

At present, three methods are employed to collect feedback, these are the End of Course Evaluation Form, the Application of Learning Form (sent out after 4 months) and where possible an oral debrief

- a) Could you say what elements of the current course evaluation you find of particular value? Could you tell me why you have chosen these particular elements?

- b) Could you describe ways in which the current system of course evaluation could be improved?. What are your reasons for suggesting these changes?

Explanation for Question 2

The first question looks at the specific modes of feedback and seeks to identify a preferred method. This question is concerned with the perception of the effectiveness of the two methods highlighted and their usefulness. This is of interest, as earlier research suggested that the 4-month review is perceived as ranging from 'a waste of time' to 'not

very useful'. The second part of the question seeks to explore the whole method of course evaluation, as presently practiced, and collect suggestions as to possible improvements.

2. Effectiveness

a) The current evaluation model seeks to gather responses at the course conclusion and again after four months. Could you describe any aspects of this approach that you find of particular value?

B Have you any comments on the overall effectiveness/value of this approach to course evaluation?

Explanation for Question 3

This is, in many ways, a very difficult or impossible question to answer. It was included again to seek ideas from the respondents as to how they perceived these effects could be measured, if at all.

3. Impact

Training is an expensive process and any organisation would be interested to know if the results justify the resources expended.

- a) Could you describe ways in which the effects of training could be estimated, from the perspective of:-
- 1) The individual and
 - 2) Operational efficiency of the group

Explanation for Question 4

The first three questions could be regarded as generic in nature, where this question and the two that follow refer to the Surveyors Training Programme, which is the subject of the Case Study.

4. New entrant surveyors

The original intention of the programme was to provide a structured training scheme for new entrant surveyors.

- a) Could you describe what you consider the particular strengths of the course?
Could you suggest specific areas for improvement?

- b) In your own experience, do you think that the programme is 'fit for purpose'?

Explanation for Question 5

Here the interest lies in the reaction to the proposed scheme by experienced staff. They were informed at the introductory meeting, held in April, 2007, that all survey staff would be required to complete the programme within a 5-year period. Earlier research indicated that this generated a range of responses and this question seeks to explore this reaction further.

5 Existing staff.

At the programme launch in April 2007, it was announced that the programme would also apply to all existing staff, as a means of recording competence and as a method of CPD.

In what ways do you think this policy was received by experienced staff? Could you give any examples of the responses?

Was this move seen as a benefit or a threat to the professional integrity of experienced people?

Explanation for Question 6

This enables those experienced staff, the subjects of these interviews, the possibility to contribute to the further direction of the development of the scheme.

6. Future development

This programme was designed to be periodically updated in the light of experience and changing needs.

Could you give specific examples of aspects of the current programme that might be revised in the future?

Conclusion

This Chapter has described the methodology employed to gather data relating to the Case Study. This can then been used to establish a firm foundation for the design of the subsequent research programme. It has also described how the Questionnaires and the Interview Schedule were developed and the rationale underpinning the selection of the questions. Given the limited resources and the specialised nature of this piece of research, it was necessary to keep the amount of data collected to a manageable volume, at the same time, covering the main points of interest. This was a major consideration in the programme design, while at the same time, giving due consideration to validity, reliability and adherence to the required ethical standards.

All the data gathered collected is displayed in a tabular form in Chapter Five and from that conclusions will be reached. A condensed tabular format has been chosen as being the most suitable way to link the qualitative and quantitative data. The secondary source data, from the 4-month returns, lends itself to a tabular format where results from each question can be expressed in the form of a percentage. This in turn will highlight those

questions where there is a consensus and those where there is a marked divergence of viewpoint. The primary source data from the two questionnaires has been treated in a similar fashion. Using the figures obtained, it is then possible to highlight areas where there is broad agreement and further investigation is not required. However where there is a level of disagreement indicated, further research would be suggested. This is followed up by development of related questions for inclusion in the Interview Schedule. The style will be of a structured but 'open' to allow the respondent the opportunity to contribute as much as possible. This has the disadvantage of making the data more difficult to analyse in the same way as the previous returns.

The principle research methods used, that is questionnaires and interviews, have been selected with practicality in mind, given the limited scope of the research whilst at the same time ensuring that the process has rigour, reliability and validity. Reliability indicates that similar results would be achieved if the research was repeated. Even in the short period of time over which this research has been conducted, significant changes have taken place in the MCA. Changes in internal organisation, coinciding with the appointment of a new Chief Executive, have resulted in revised Role Profiles for many key staff. This has had an inevitable effect on training provision, with management time being lost while personnel adjust to new or altered roles. In addition, the employee age profile indicates that many are close to retirement and, indeed, some of those interviewed, or who have responded to the questionnaires, have either retired or moved to other employers.

Chapter Four

Research Data Analysis

'To understand is hard. Once one understands, action is easy'

(Sun Yat Sen, 1866 - 1925 : known as the father of modern China)

This Chapter brings together all the research data available. This consists of both primary and secondary data. The primary data has been collected from two separate sources. The first is from the use of two Questionnaires, one on Assessment of student learning and the other on Evaluation of the curriculum. The second primary source is the replies from the interviews conducted across the Agency. The secondary data is taken from the Assessment of Learning Form which is sent out to each student, four months after the end of the training event. This data has been supplied by the MCA Training Centre for use in this thesis.

When compiling this data the concern was to devise The analyses of the data suggested the adoption of an thematic approach to produce an a format that was clear and understandable yet linked by a common theme.and yet did not exclude any of the salient points. This link is the evaluation of the curriculum, as stated in the thesis title, and consequently the analysis has been conducted with this in mind. This resulted in a Ddata has been presentedation using three different layouts, for the sak of clarity.. The two primary questionnaires lend themselves to the data being displayed in the form of a data box accompanied with a pie chart for additional clarity. The secondary data is retained in the tabular format it was supplied by the MCA. The Interview Schedule results posed a problem, as it did not fit into either of the two methods mentioned. Here it was decided to take each question in turn and to identify any common factors that emerged after analysing the responses.

Finally the results have been grouped together in tabular form as a Research Summary in Chapter Five.

Assessment Questionnaire

Assessment of Learning - Number of Returns 31

Knowledge and Skills.

No.1	What is the main purpose of assessing your learning during and after training?	a) to provide evidence of a change in your ability to perform given tasks	b) to confirm your competence against a set criteria	c) both	
	Score	7	4	20	

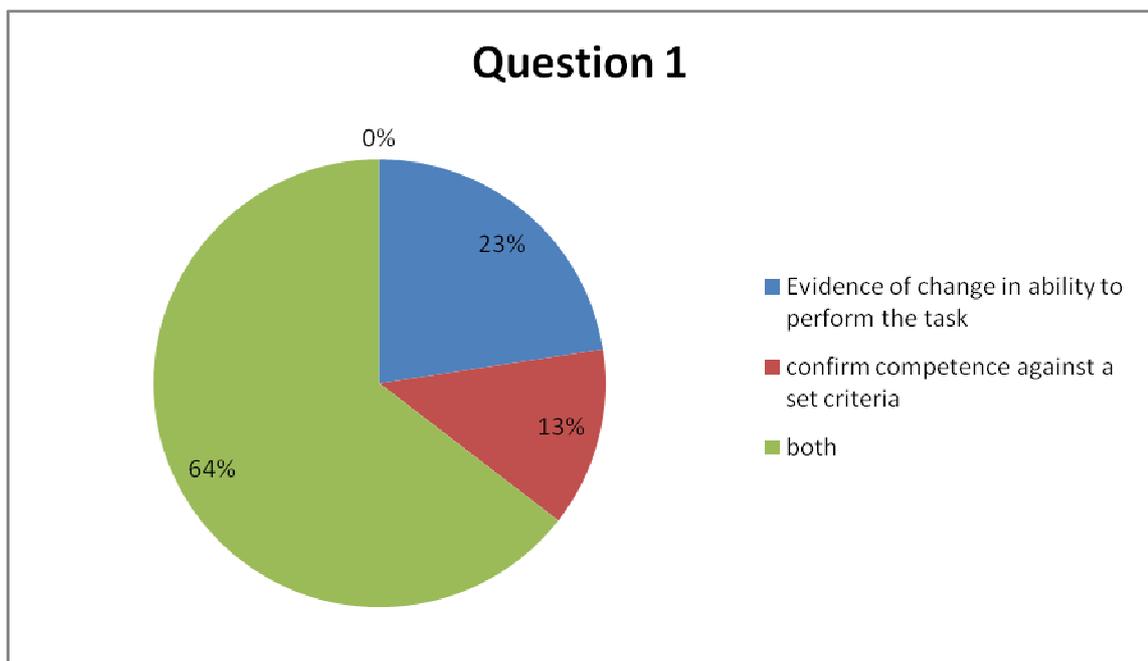


Figure 4.1 Purpose of Assessment

Comments:- It is clear that the majority (64%) regard the purpose of assessment as both evidence of a change in ability and also that competence has been confirmed. However, the next largest group (23%) viewed the purpose only as confirming that a change in ability has occurred. Therefore it is reasonable to suggest that an accepted reason (87%) for undertaking assessment would be to provide evidence that a change in the level of ability had occurred. This clear majority is sufficient evidence to justify the statement that ‘Most people will accept the inclusion of assessment, in one form or other, in the design of training programmes’.

No2.	If both, which is the more important?	a)	b)	
	Score	8	12	

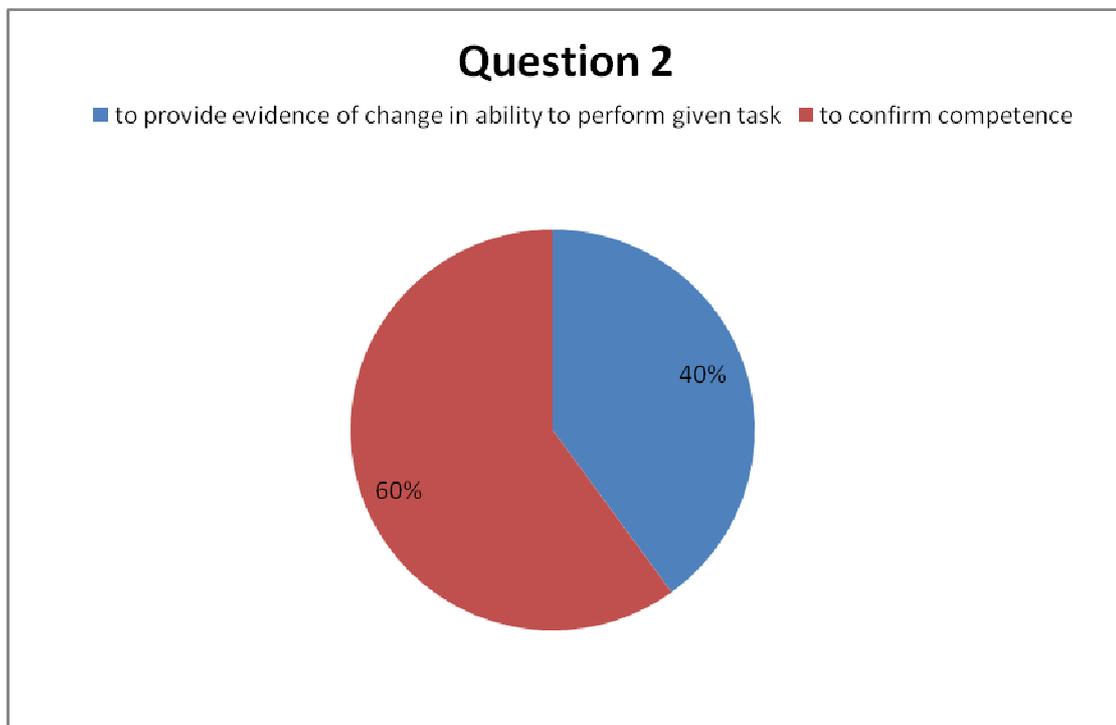


Figure 4.2 Which is most important a) or b)

Comment:- The returns for Question 1 showed that both the suggested options describing the role of assessment were valid, there being a slight majority in favour of confirming competence against a set criteria. Given the necessarily small numbers in the sample the difference cannot be considered statistically significant. Therefore it would be reasonable to accept that assessment, in this context, has a dual purpose. That is to note any change in ability, and to judge competence against an agreed standard.

No.3	If the main purpose is to improve your ability to undertake tasks, how can this be shown to have occurred?	a) in the Application of Learning Form.	b) reflected in the Personal Performance Plan.	c) self assessed	d) suggest another method
	Score	3	14	9	5

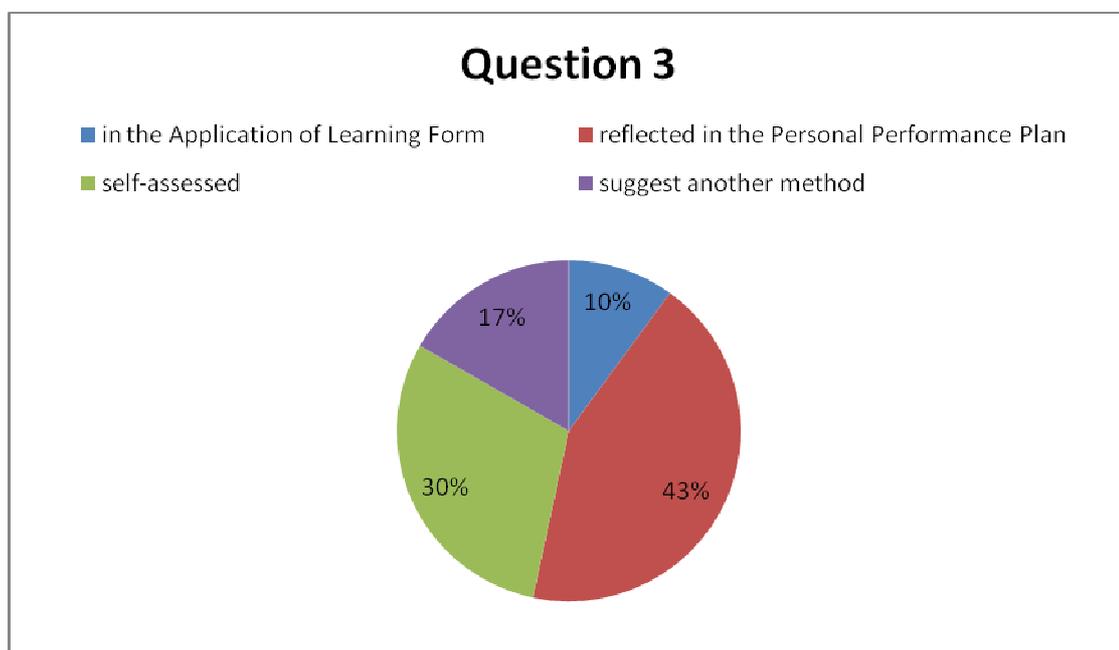


Figure 4.3 Evidence of ability to undertake tasks.

Comment;- It is clear that a majority (43%) favour the use of the Personal Performance Plan. This is one of the principle justifications for the time and effort put into these Plans each year. A large segment (30%) considers self assessment to be the way forward and this method can make a contribution towards the completion of the Plan. Given the comments above, the PPP would seen to be fulfilling its intended function, with the caveat that the reviews are conducted in an open and honest manner, with a degree of self-assessment encouraged.

No.4	If the training was for the purpose of revalidating your skills, how do you think the results should be assessed.?	a) written examination.	b) continuous assessment.	c) oral examination.	d) task based assessment, by an experienced colleague.
	Score	3	12	5	11

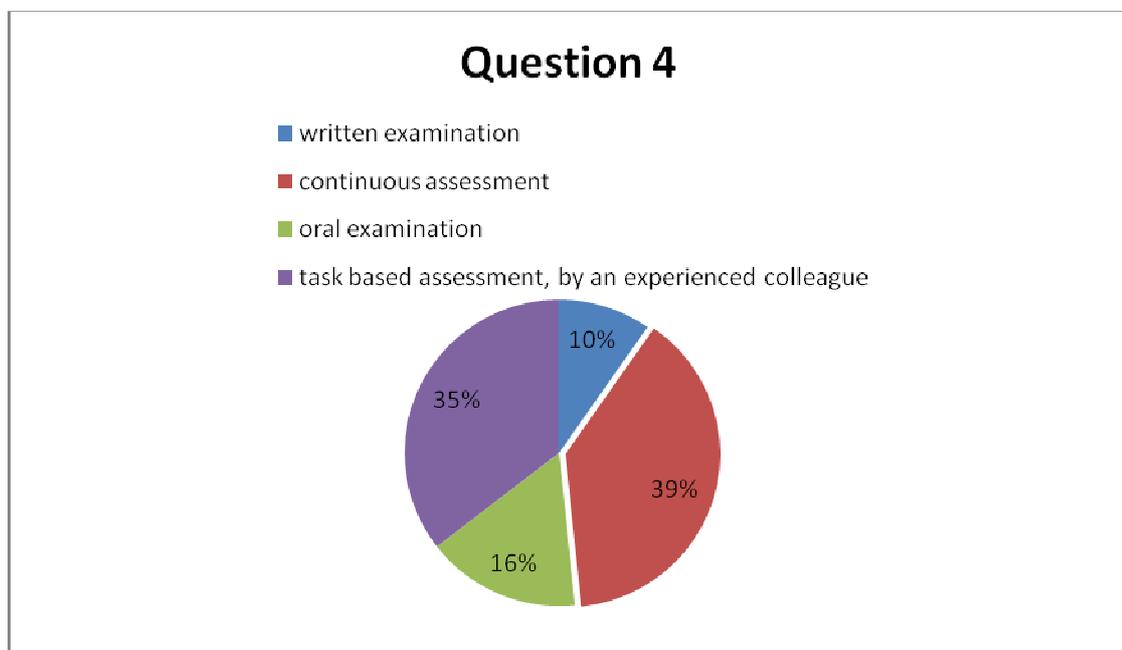


Figure 4.4 Assessment method for revalidation of skills.

Comment:- There is a clear indication that a significant proportion (39%) favour the continuous assessment method. However, given the small numbers in the sample group, there was also a similar percentage (35%) who would favour the assessment being carried out during a task based activity, with the important caveat that it is conducted by an experienced colleague. It should be noted that not all training courses will be suited to this form of activity.

No.5	Do you think that summative assessment should state?	a) a pass or fail grade	b) a statement of competent or not yet competent, in accordance with the assessment criteria	c) suggest another method	
	Score	8	21	2	

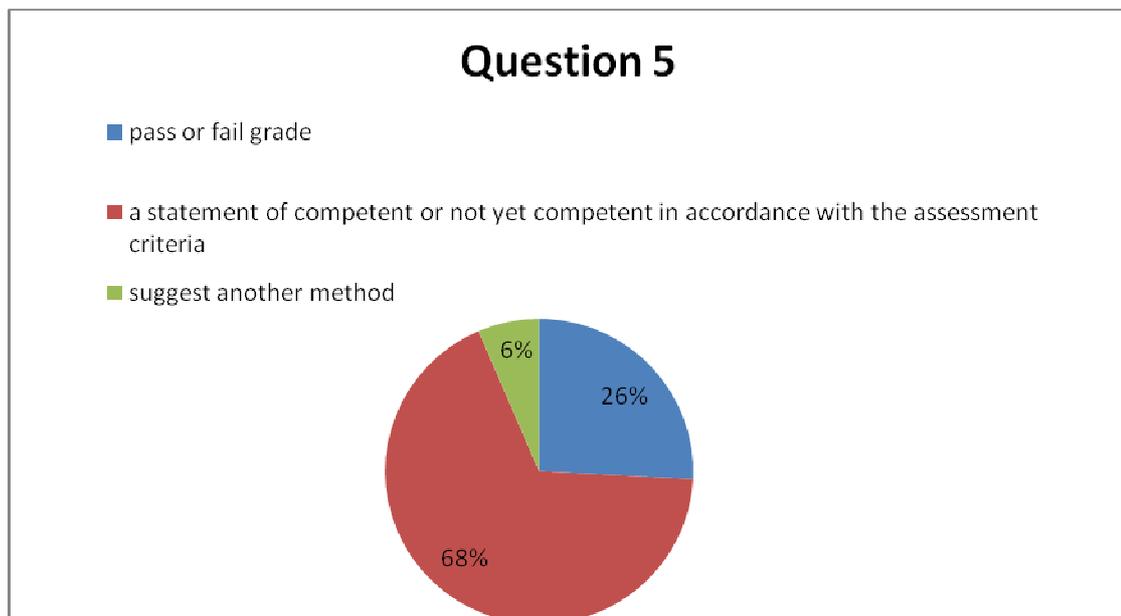


Figure 4.5 Preferred type of summative assessment

Comment:- Given a preference, a substantial majority considered that the NVQ style verdict of ‘competent’ or ‘not yet competent’ should be used but that the decision should be firmly anchored in the requirements of the assessment criteria. There were two different options expressed which, while valid, were very much in a minority. Firstly that there was no requirement for a grading system, in any form, and in some instances this approach might be justified, but given the desire to be able to measure the impact of the training, these instances would be few and far between. The second comment was for a system of graded passes, but if the accepted purpose of the assessment process is to provide evidence that a change in ability has occurred, it would be very difficult to devise a scheme whereby the degree to which this had occurred could be established. Working with learners at this level of professional expertise, the correct use of language is important, indeed vital. The use of the terms ‘pass’ or ‘fail’ have a ring of school days about them and revive memories which are not always of benefit to the learning process. While the use of ‘competent’ and ‘not yet competent’ have, to a degree, essentially the same meaning they convey the information in a softer and more professional style and one that should be employed.

No.6	What remedial steps would be appropriate if a learner failed an assessment?	a) retake the training	b) report the result to the Line Manager	c) take no action at all	d) retake the failed part of the assessment
	Score	16	2	Nil	13

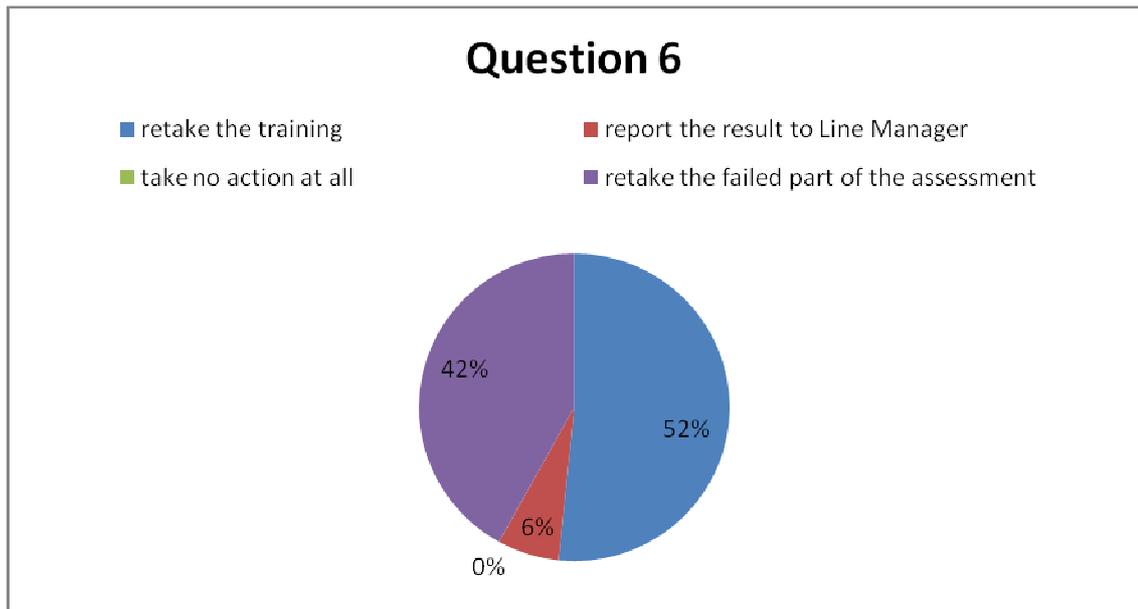


Figure 4.6 Remedial steps to be taken

Comment:- There is almost an even division between those who favour, in the event of not achieving the set objectives, repeating the training (52%) and those who would only accept retaking the failed part of the assessment as appropriate (42%). It was universally agreed that ‘no action’ was not acceptable and a small percentage (6%) considered that it was reasonable to inform the Line Management. The major concern raised with passing information to Line Management is one of trust and the possible future use of the information. At the present time (2007) the only information recorded on the Human Resources Management Information System (HRMIS) is the date and time of attendance at the training. This is not always up to date as often individual training is arranged and the details are not entered on the system. This information can be extracted for use as a Management Tool should the need arise. The introduction of the Customized Awards has achieved, in effect, a measure of control with the results of each part of the process being subject to possible confirmed by the Assessor, Internal Verifier and the External Verifier, before final acceptances by the Awarding Body.

No.7	If assessment, in any form, was incorporated, into a training course, would this affect your attitude to the training event?	a) very concerned	b) concerned	c) unconcerned	d) welcomed
	Score	1	12	9	9

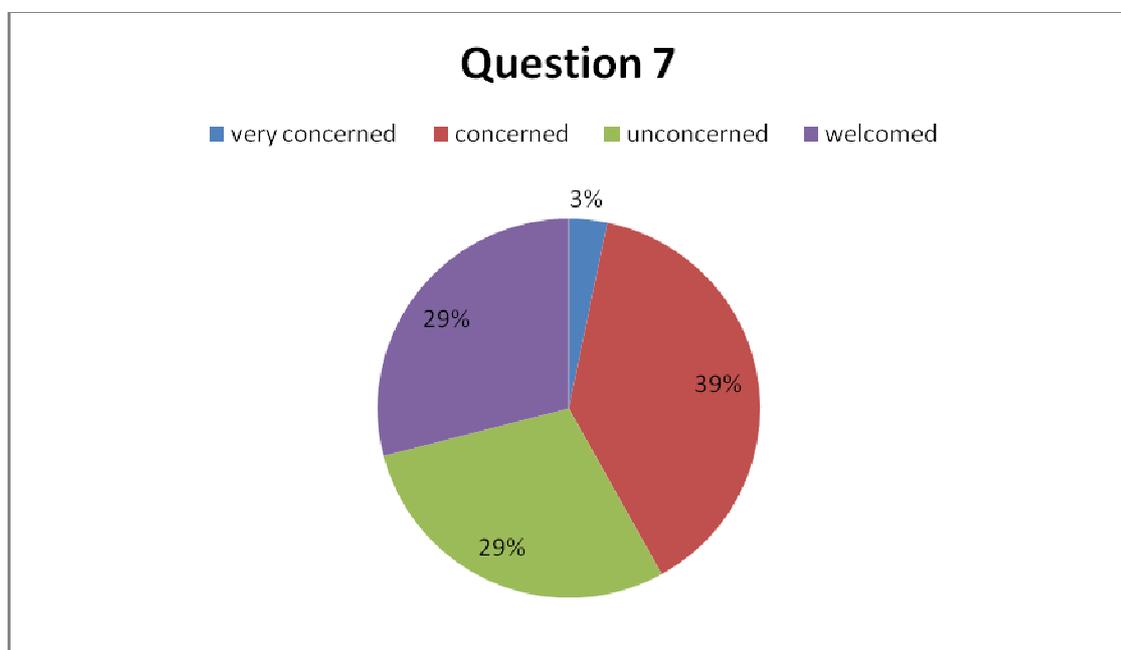


Figure 4.7 Attitude to forms of assessment

Comment:- The Literature Search in Chapter Two, explored attitude (motivation), its creation, maintenance and encouragement, and is considered as a critical part of the successful learning environment. Therefore the effect of knowing that a) there will be an assessment of their performance and b) possible repercussions of not performing well, could affect the learning. The inclusion of an assessment method or methods, whatever they may turn out to be, will have to be carefully thought out. The rationale underpinning the eventual choice should be sufficiently robust to be able to stand up to

close inspection. Undertaken with some sensitivity this should not present a problem as 58% either were unconcerned (viewed it as no threat) or welcomed the introduction.

No.8	If we use continuous assessment , would you prefer:-	a) a written test	b) observations	c) oral questions	d) suggest another method
	Score	8	8	5	4

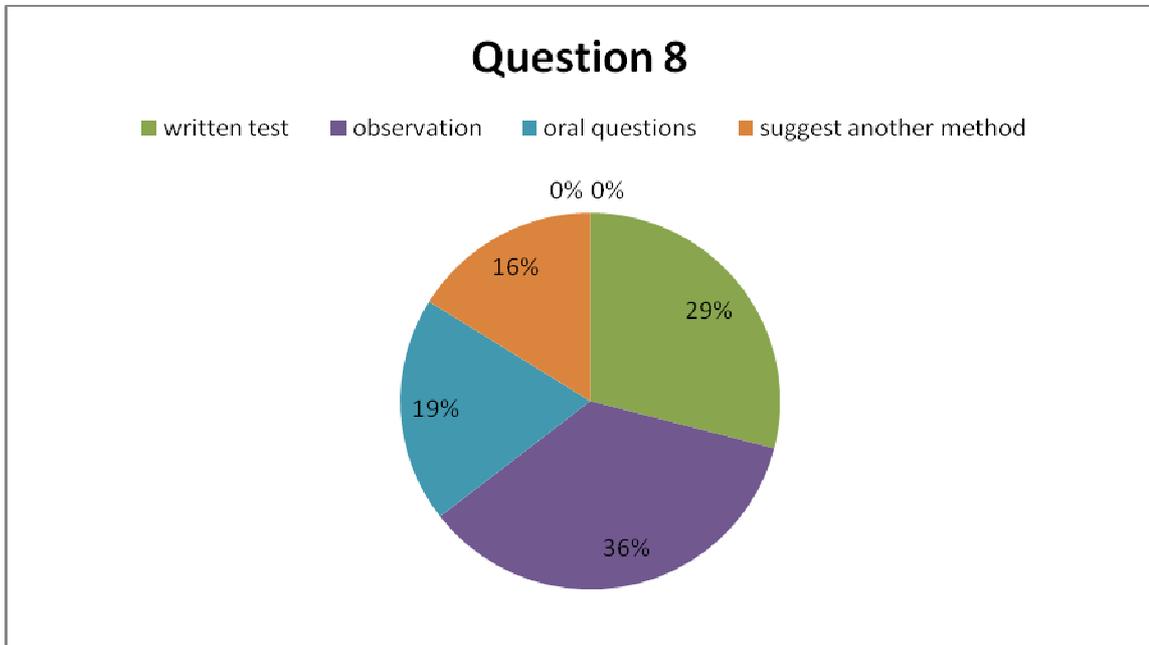


Figure 4.8 Type of preferred continuous assessment

Comment:- Assuming that a form of continuous assessment is used, this question seeks to determine the method that is most acceptable. Most students (36%) would prefer the use of some form of written test. The remainder are closely divided between the use of oral questions (19%), observations (36%) and a selection of other methods. The other methods suggested are essentially a combination of the three mentioned above. One drawback in the use of any assessment method is the demand on resources, mainly the

time available before the end of the course. This means that in practical terms, the method used must be justifiable, keeping in mind that the assessment is part of the learning process. It would therefore seem a sensible solution to use a mixture of the methods suggested above, dependant of the type of activity being assessed. An existing example of this is the classroom based Dynamic Risk Assessment Course (1 ½ days) which the external Awarding Body require to be assessed by means of a short written paper, consisting of a combination of multi-choice and open questions. A longer course involving practical work, such as involving the use of a simulator could be assessed during the various exercises. A combination of a short written paper and task-orientated assessment could be appropriate for some other training.

No.9	Do you think feedback, in any form enhances your learning, give reasons for your answer?	Yes	No	No response	
	Score	26	nil	5	

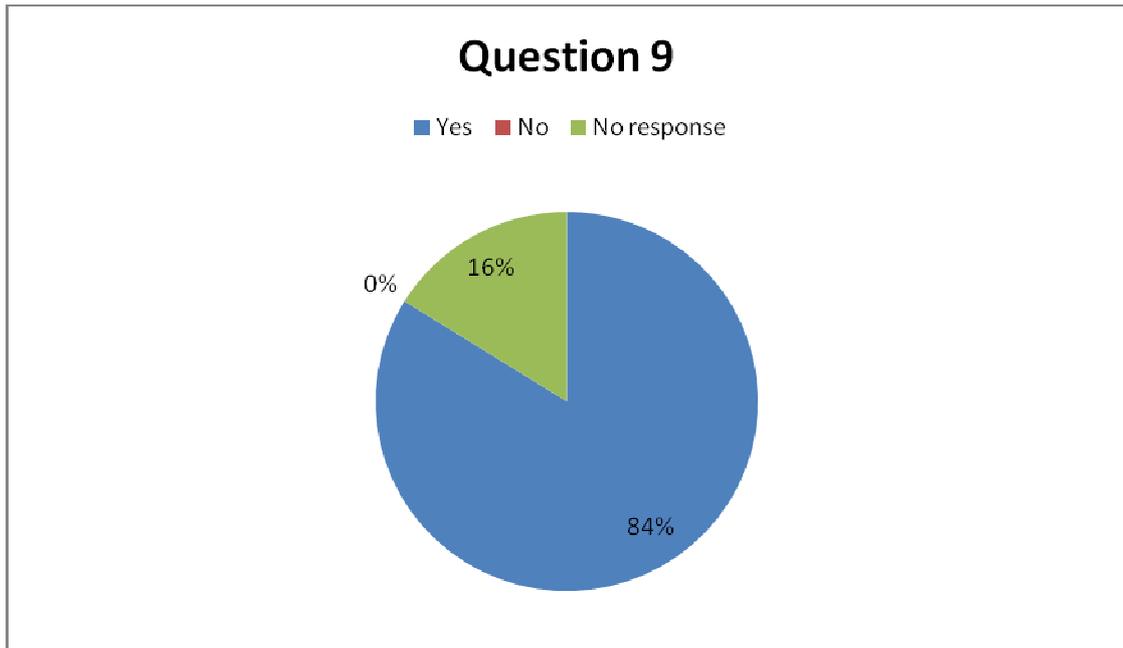


Figure 4.9 Does feedback enhance the learning, with reasons

Comments:- These replies confirm that of those who responded 84% supported the concept and were of the opinion that the process was a useful adjunct to support the learning process. An almost universal comment was that constructive feedback was essential. This is something that should be included in any future programme with the proviso that there should be proper guidelines drawn up and agreed with the parties concerned, as to the conduct of such sessions. This would be in accordance with good practice.

No. 10	How do you feel about:-				
a)	Assessing your own learning	Difficult to do	uncomfortable	Comfortable	Welcome
	Score	8	3	17	1

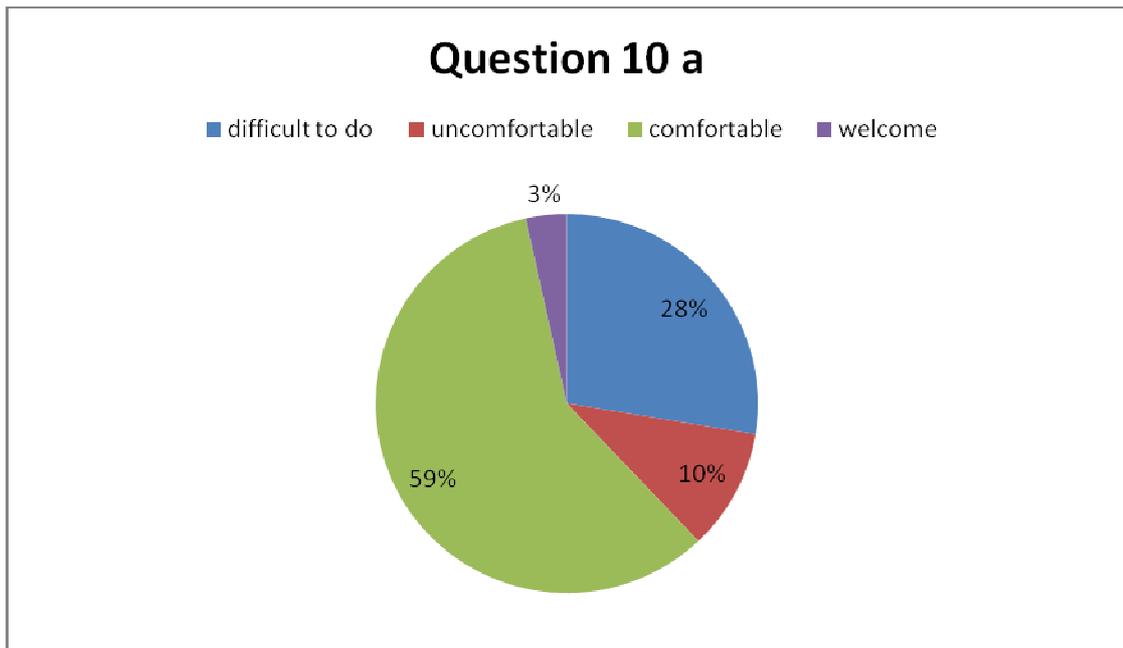


Figure 4.10 Assessing own learning

Comment:- The majority (59%) would feel comfortable with the idea, but the remainder think that it would be either difficult to achieve or would feel uncomfortable with the prospect. The number that would feel uncomfortable with the self assessment idea is of interest and could be the subject for further research. For self-assessment to be a creditable method there would need to be a set of criteria drawn up for the individuals. It is difficult to see that when other means are available that this would work out in practice as it is hardly likely that an individual would give themselves a poor assessment, especially if the result was for publication. In a team environment it is unlikely that this would be the norm. However, during the PPP interviews, there should be an element of self-assessment expressed.

b)	Receiving feedback from tutors:-	Rather threatening	uncomfortable	Comfortable	Welcome
	Score	nil	3	17	13

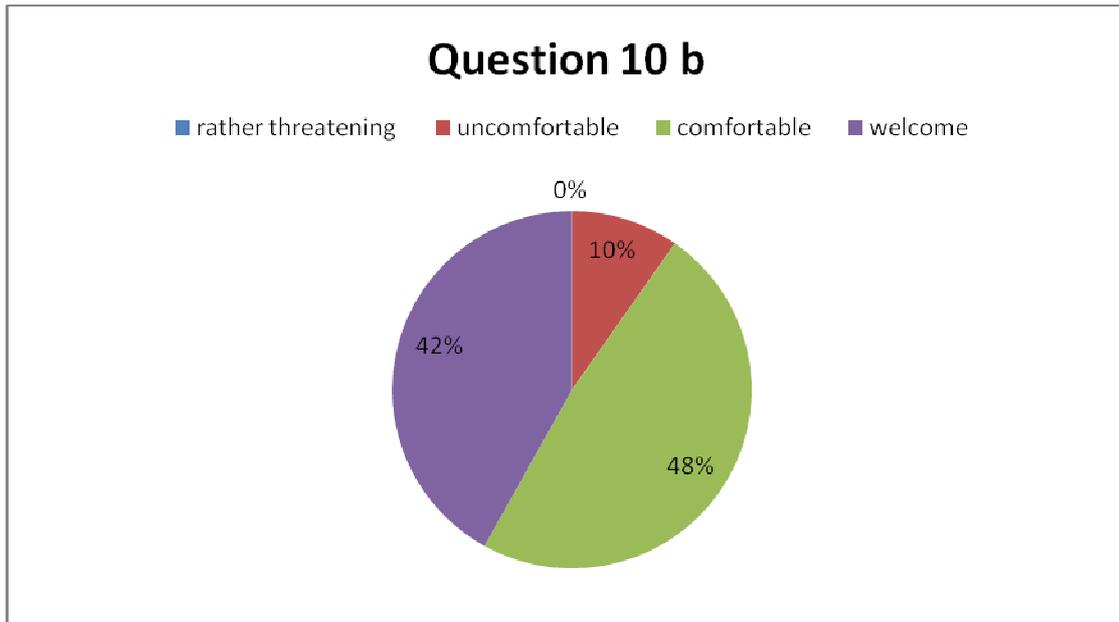


Figure 4.11 Receiving Feedback from tutors

Comment;- Here there is a positive indication that it would be either welcomed (42%) or the student would feel comfortable with the arrangement (48%). Only a small percentage would feel threatened by the idea. It is clear that tutor feedback would be widely accepted. However what was not mentioned was the fact that the tutor would have to be trusted personally, professionally and academically to return feedback that is unbiased. Creating this atmosphere will be an essential part of creating a safe learning environment.

c)	Receiving feedback from your peers:-	Rather threatening	uncomfortable	Comfortable	Welcome
	Score	nil	7	17	7

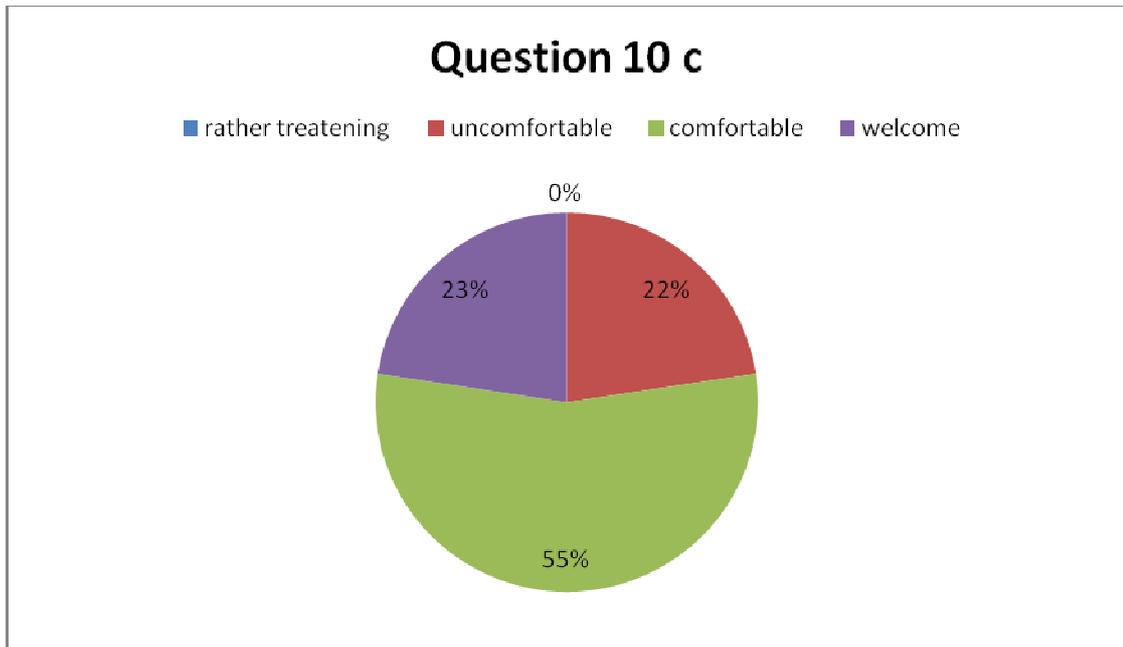


Figure 4.12 Receiving Feedback from peers

Comment:- Again there is a clear majority (55%) that would be content with receiving feedback from their peers. It is interesting that the other returns lie on either side of this reaction, with some feeling uncomfortable and an equal number welcoming the idea.

It is clear that the favoured method is the reception of peer feedback. This would have the feature of making maximum use of the professional expertise that exists within the MCA. Again it must be stressed that the question of trust and confidentiality has to be addressed. One way this can be assured is by the use of experienced staff who are trained in the process of giving feedback to trainees.

No.11	Drawing on your own experience, what do you think is the most effective form of feedback	a) oral	b) written	c) oral with a written record	
	Score	12	4	15	

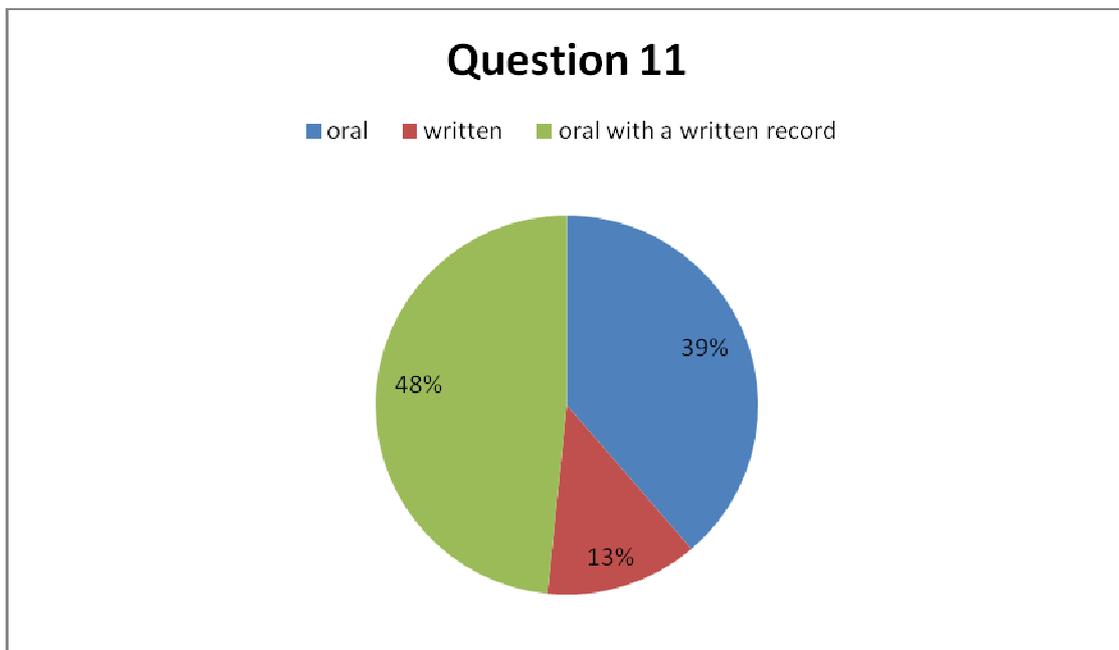


Figure 4.13 Forms of Effective feedback

Comment:- It is clear that the preferred method is by verbal questioning with a written record. The reference to the request for written answers, is of interest, as they could be used as a learning tool or it could be seen as evidence in any future dispute about competence with the Management. It is clear that for feedback to be effective, there must be mutual trust between the student and the person giving the feedback. The use of a process of oral questions with or without the recording of the question and answers, would be the preferred method.

Evaluation Questionnaire

Assessment For Learning – Number of Returns 34

No.1	How much importance would attach to the professional knowledge of the tutor?	None at all	Would be useful	Important	Very important
	Score	nil	2	6	26

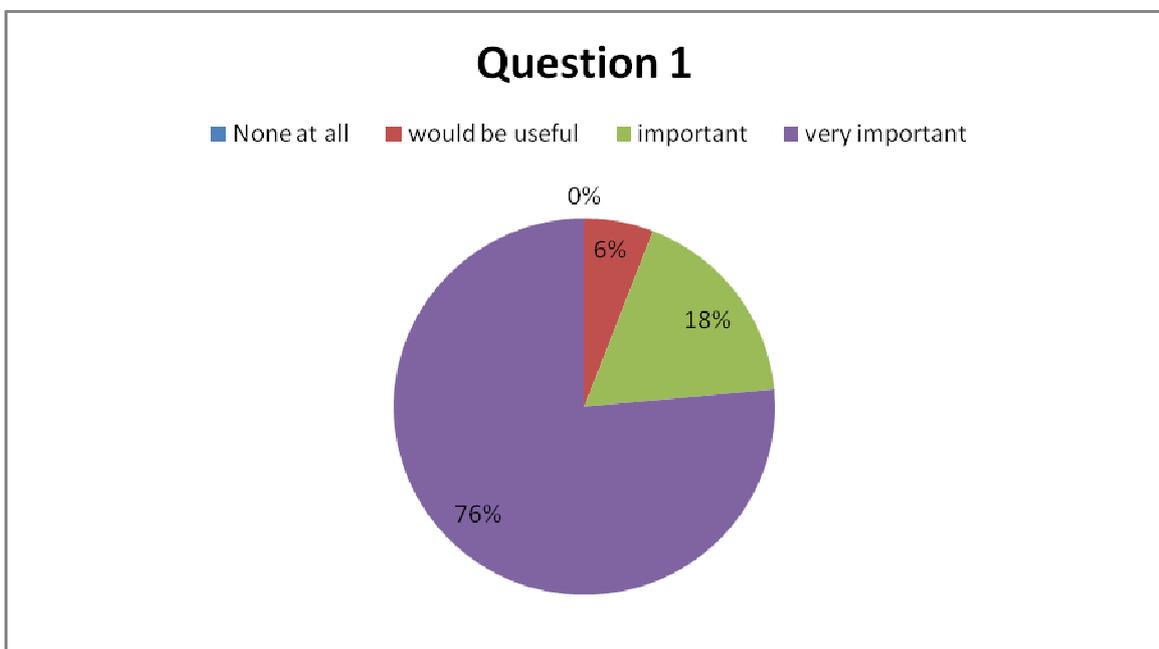


Figure 4.14 Importance of technical knowledge of tutor

Comment:- The replies indicate that the technical knowledge of the tutor is highly valued. This is only to be expected given the level of professional expertise that would be present in a training room at any given event. It is important when dealing with students, who are highly qualified and experienced professionals in their own right, that the tutor is recognised as having credibility.

No.2	Is it important for the tutor to have a recognised teaching qualification?	None at all	Would be useful	Important	Very important
	Score	2	16	13	3

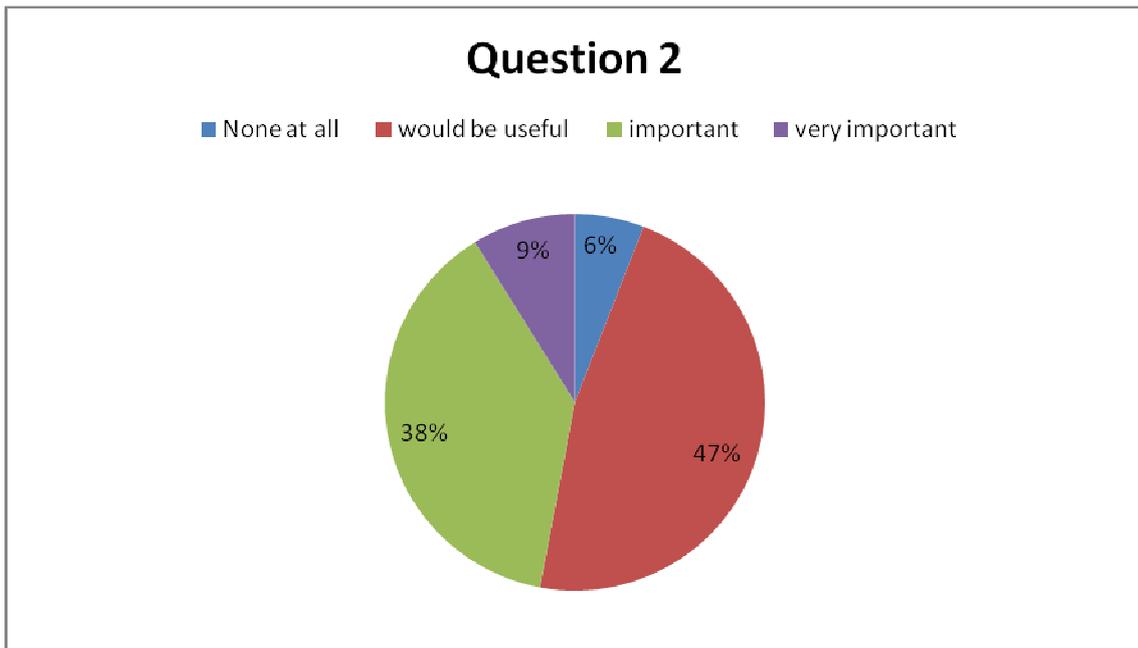


Figure 4.15 Importance of the trainer having a recognised teaching qualification

Comment:- The results of this enquiry show that the possession of a recognised teaching qualification is regarded as ‘would be useful’ or ‘important’ by the majority (85%) of the respondents. It is noted that at present there is no requirement, in England, for tutors in Further Education to be qualified teachers, although the position in Scotland is different. It is understood that this situation will change in the near future. This may not be as easy to achieve as it at first appears. Personal experience shows, that it is very difficult to attract professionally qualified subject experts into marine related teaching. This is a direct result of the shipping industries’ policy over many years, of employing less costly personnel from the developing world in preference to the nationals of the

traditional seafaring countries. This has inevitably resulted in the loss of native expertise available to the shore-based support industries, such as insurance, marine consultancy and shipbroking. This recruitment issue is a problem for the MCA and the Nautical Colleges that provide much of the training in the industry. This is evident by the increasing age profile of those involved. However, the Agency does have a policy of requiring newly appointed teaching staff, even if they are established employees, to obtain the Certificate in Teaching Practice. Therefore it is very important that this aspect of the training provision is given the priority that is needed.

No.3	Is it important for the tutor to use a range of instructional techniques	None at all	Would be useful	Important	Very important
	Score	nil	5	21	8

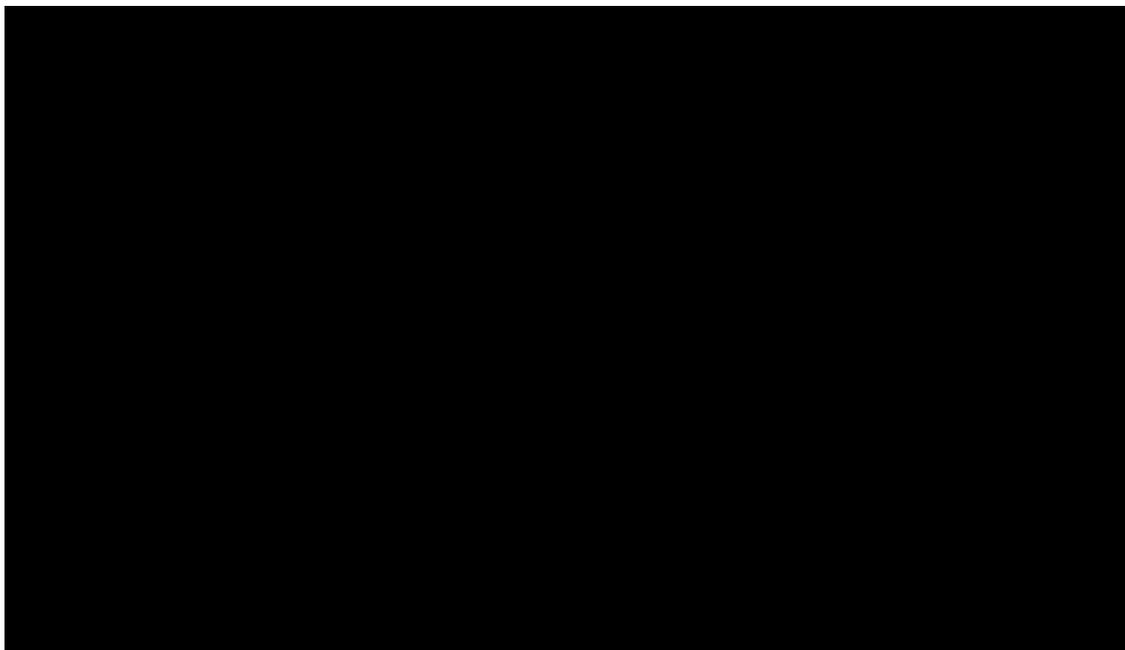


Figure 4.16 Importance of the use of a range of teaching techniques

Comment:- The response indicates that the use of different techniques by the tutor is of considerable importance.. This supports remarks from the preceding question, as to the

importance of educational training for the tutors. The only way the tutor is going to know, appreciate and understand the various techniques is by having been trained in their use. This is not forgetting to mention the less obvious skills required for the more mundane everyday tasks such as lesson preparation and keeping material up-to-date

No.4	Do you think the personality of the tutor has an effect on your learning.	None at all	a little	Important	Very important
	Score	1	nil	13	20

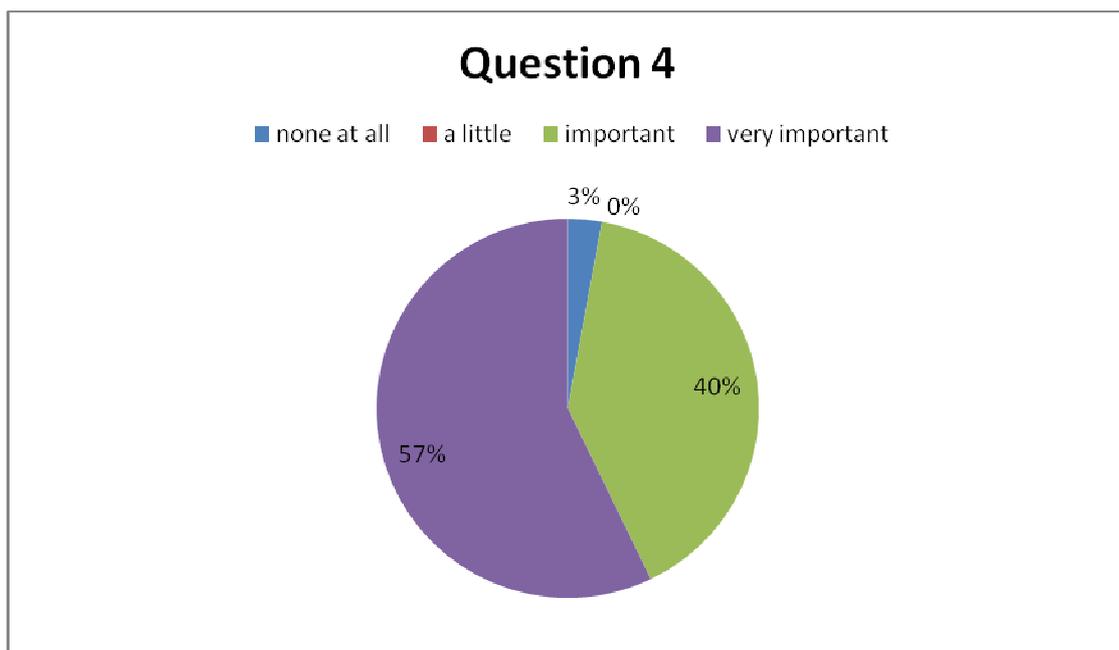


Figure 4.17 Effect of the personality on the learning

Comment:- This requires a more subjective response than some of the other questions. However just over half (57%) thought that it was 'very important' and if the numbers who considered that it was more than a 'little important', then the percentage rose to 97%. As human beings all have slightly different learning styles, as mentioned in

Chapter Two, the approach that suits one person may not suit another. It is nevertheless a critical factor when deciding on a training provider. The trainer must observe such basic concerns as treating people in line with good human relations practice and common decency. It is an unfortunate fact that there are technical trainers that, while very able subject experts, display little in the way of inter personal skills.

No.5	Do you think that a task based competence should be revalidated by attendance at:-	A course	Proof of actual practice	Some other method	
	Score	10	23	1	

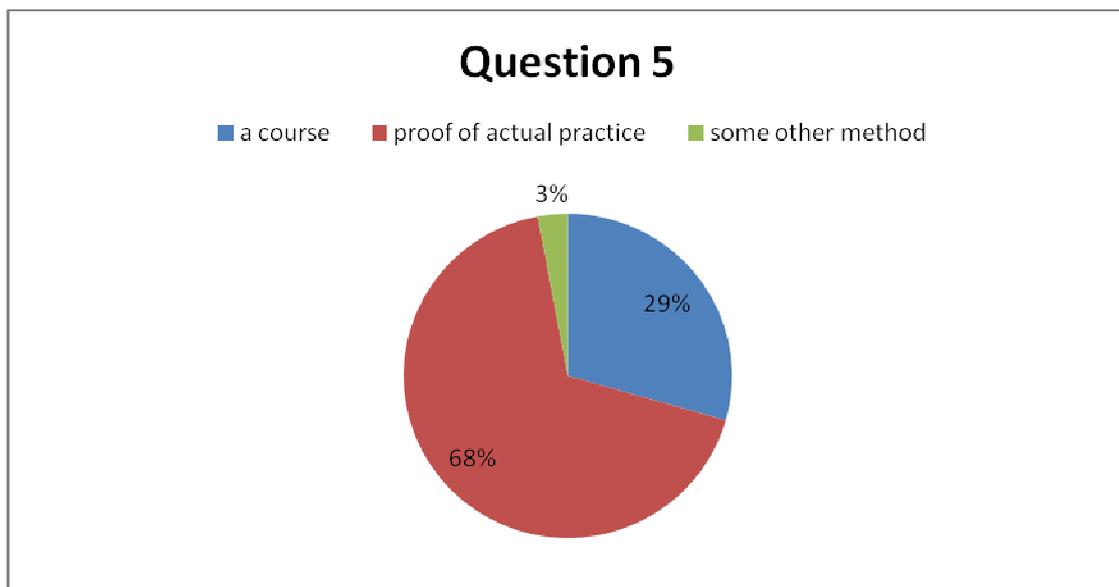


Figure 4.18 Method of task based competence revalidation

Comment:- Keeping in mind the tasks that the student body undertakes, the preference expressed by a majority (68%) for assessment decisions, based on the practical aspect of the work is not surprising. The other choice is a re-validation course which would be considered acceptable by almost a third (29%) of the respondents. The choice of

which of these two methods to use, will be influenced by the practicalities of implementation. There will be occasions when it is more appropriate to use attendance at a course, possibly one that incorporates a written assessment at its conclusion, when there is a large theoretical or procedural element. It might be difficult to undertake or organize a practical assessment process in that circumstance. On the other hand when confronted with revalidation of skills that involve a degree of professional interpretation, the practical route would almost certainly be preferable.

No.6	If some other method, please make a suggestion:-	Suggestions	No further comment felt necessary	
	Score	3	31	

Comment:- The previous question asked for suggestion, and this questions allows the opportunity from these to be made. Only three alternative suggestions were received which could indicate that the trainees were satisfied with the selection on offer. It could be that there is a degree of apathy involved but this would be difficult to prove. It would be unwise to state that as only three responded to this specific question that there was complete contentment with the offered selection. The suggestions were valid and deserve consideration 1) mentioned attendance at discussions and seminars, 2) by examination and 3) considered that course attendance plus evidence of actual practice would suit the purpose. These ideas are examined further when the conclusions are discussed in Chapter Five.

No.7	How would you deal with pre-course reading?	I would read it before the course started.	I would catch up during the course	To be honest, I would probably not read it.	
	Score	19	9	6	

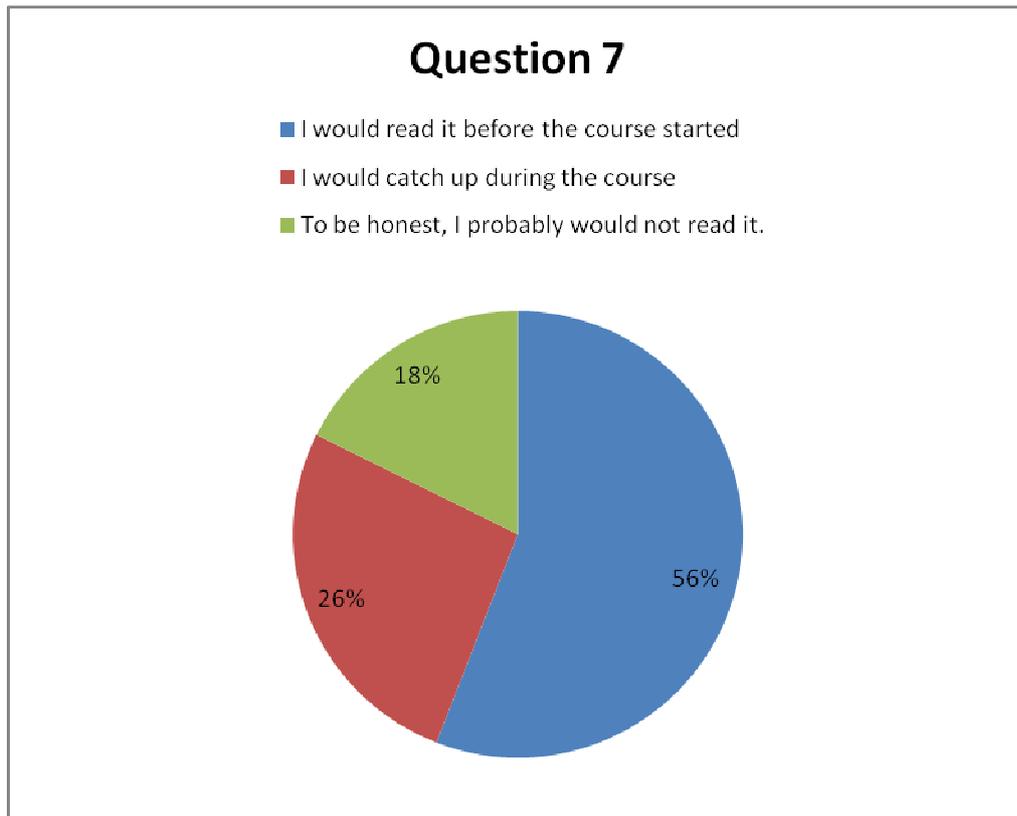


Figure 4.19 Dealing with pre-course reading

Comment: - To answer this part of the questionnaire requires a certain degree of honesty and some self awareness. This is an issue that has been debated with training providers and in theory pre-course reading would be expected to be an advantage to all concerned. The ideal arrangement would be for the student to complete some pre-course reading together with an on-line assessment, before the start of the classroom sessions. This would ensure a base line of subject knowledge on which the tutor can then build. This is at odds with the findings indicated by this very limited research that, in fact, the majority (56%) would make use of the reading material. It would be a definite advantage if the reading could be sent out beforehand, ensuring a more productive classroom based session.

No.8	How important a part do you think that group table top exercises play in your learning?	None at all	A little	Important	Very important
	Score	1	7	17	9

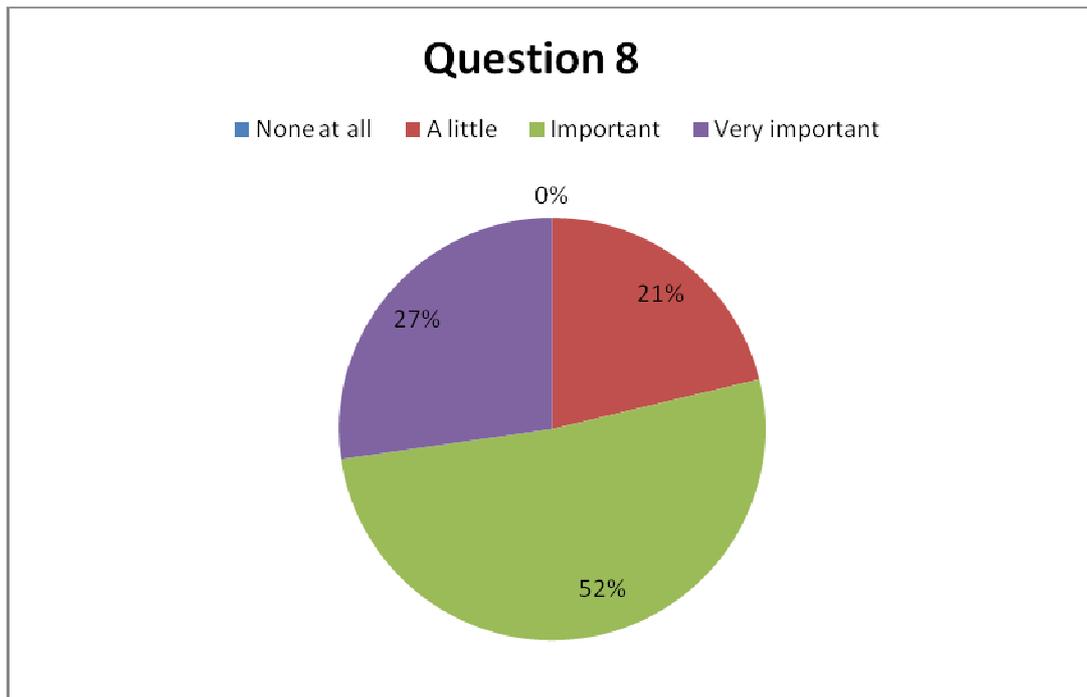


Figure 4.20 Importance of group table top exercises

Comment:- Table top exercises were introduced into the course syllabus for a number of reasons. Initially when used near the start of the training they serve as an excellent ice-breaker. Further into the course there is a need to encourage team work, exchange of ideas and production of solutions, in either case they serve to enhance the learning process. It is noted that a notable minority (27%) thought these exercises serve little purpose. Nevertheless, for the reason given above they should be included in the course programme where that is appropriate. In some circumstances, as mentioned earlier, they could be incorporated into the Assessment procedure.

No.9	Do you find the use of role play to be:-	No benefit	Embarrassing	Useful	
	Score	3	5	26	

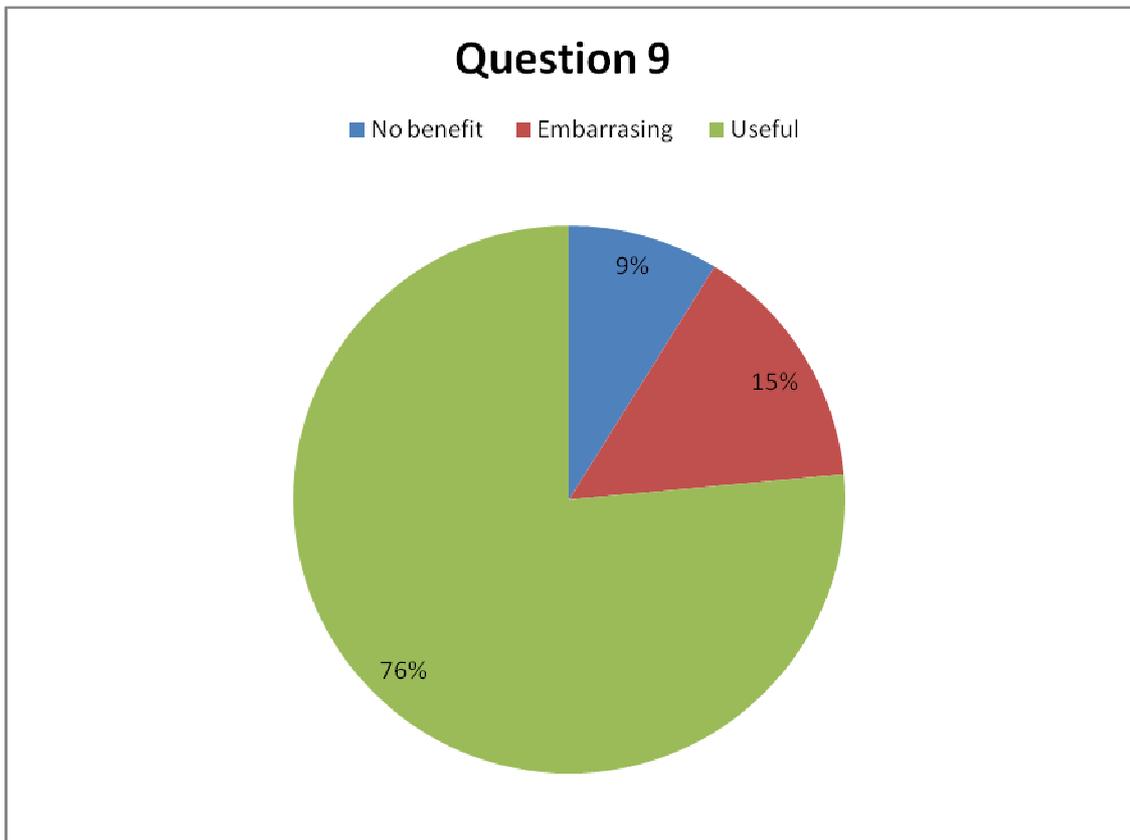


Figure 4. 21 Usefulness of role play exercises

Comment:- In the light of personal experience it was decided to include this enquiry on how the use an role play exercise was viewed at an individual’s level. They often require more than one member of staff to run such exercises, especially if they are of a complex nature, plus the use of breakout or syndicate rooms. The benefit of these exercises being held early during a course, is to act as an ice breaker. When used in this manner they need not be complex or unduly extended. Used later on, they can explore concepts and possible courses of action to be taken in given scenarios. The replies indicate that there is the possibility of causing personal embarrassment (15%) to some

students, but this could be minimised or avoided completely with careful planning and implementation. However, the great majority (76%) regarded them as useful.

No10	What factors make a successful teaching and learning environment?	See Comments for detail
	Score	

Comment;- Some of the respondents seem to have had difficulty in distinguishing the reasoning underlying this question, and the next one (No.11), even though the Questionnaire was trialled beforehand and the content and language adjusted in light of the response. It was intended that this question would seek comments in relation to the physical environment that the trainee would like to experience. However that said the responses received have been very positive. The main points that arise are:-

1. Light and airy rooms.
2. Quiet conditions with the minimum degree of distraction.
3. Comfortable seating and plenty of desk top space.
4. Good quality teaching aids.
5. Time table to be kept to with no one lecture session more that 60 mins.

No.11	What factors encourage a 'safe' learning environment where you feel you can make mistakes and learn from them?	See Comments for details
	Score	

Comment:- See comments for Question 10. The same applies to this question. The intention was to seek comments on other than the physical environment that would enhance the learning experience and make it a safe place in which to experiment. The main points to arise from this are :-

1. Small groups suggested between 6 and 12.
2. A mixture of styles employed to keep interest.
3. A minimum of interruptions.
4. Agree the ground rules where this is necessary, such as for feedback sessions.
5. Individual attention.
6. Any feedback is positive where possible.
7. Interaction with the tutor and other course members.
8. Not to question who made a mistake but rather why a mistake occurred (one of the ground rules).
9. Ensuing all students have an equal opportunity to participate.
10. An active environment with plenty of demonstrations and exercises.

No.12	Do you think that a pre-course discussion with your Line Manager is:-	Unnecessary	Useful	Important	Vital
	Score	9	18	8	2

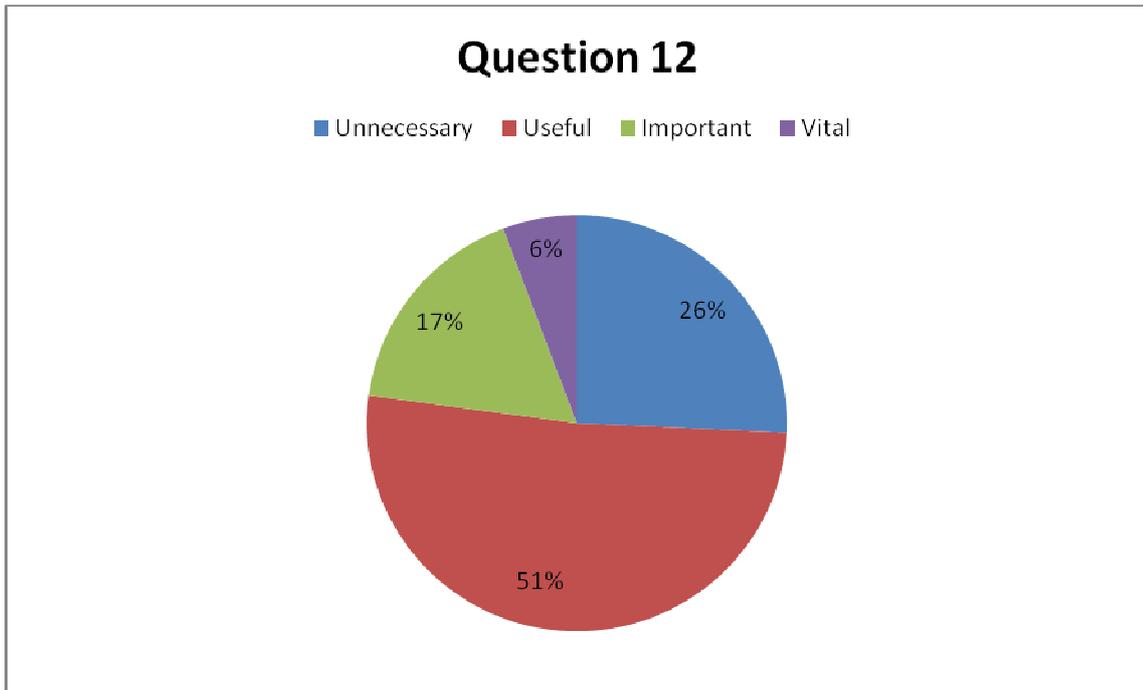


Figure 4.22 Value of Pre course discussion with Line Manager

Comment:- At the time of writing it has been the practice to ask on the Course Evaluation Form, if the student has had a pre-course discussion with Line Management. This should involve an exchange of views and a clear understanding by both parties as to the purpose of the training and the outcomes expected. This should be an essential part of the process for deciding on appropriate staff training. In addition it should be part of the function of the Line Management to ensure that, not only the training and development needs of the individual, but also the wider needs of the organisation, are satisfied

No.13	Do you think that a post-course discussion with your Line Manager is:-	Unnecessary	Useful	Important	Vital
	Score	5	18	9	2

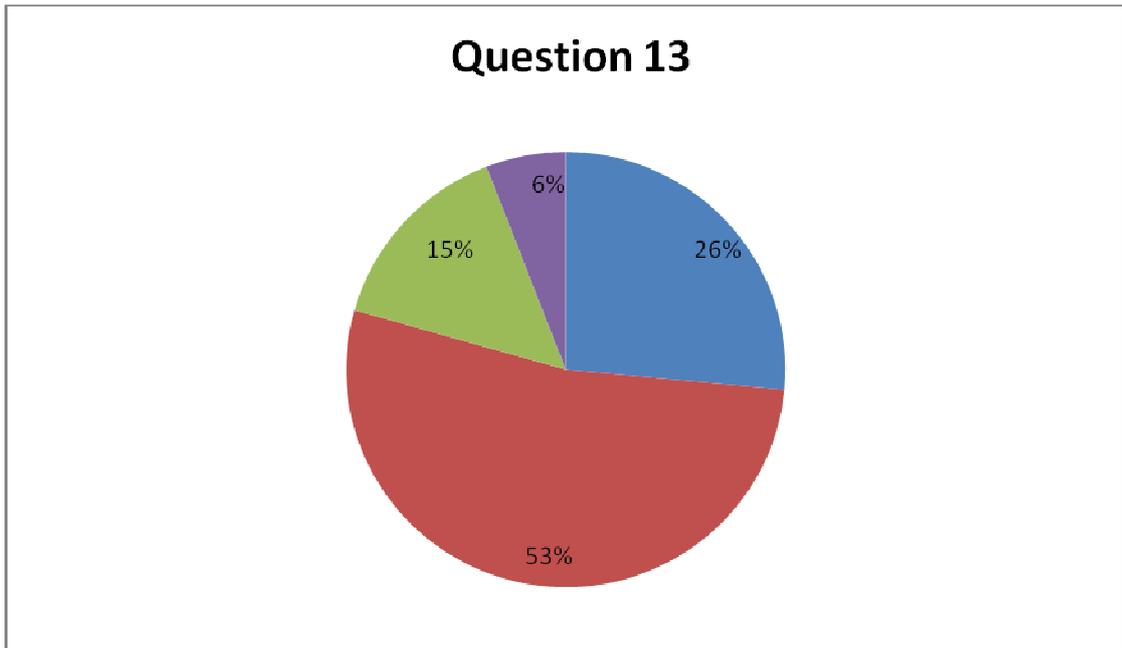


Figure 4.23 Value of post-course discussion

Comment :- Most of the respondents (79%) have indicated that they would find a post-course discussion ‘useful’ or ‘important’. It would be interesting to determine to what degree these good intentions are translated into actions. Comments are often made to the effect that there is insufficient time to fit all these good ideas into the day. This is an important management function which has to be addressed. In ideal circumstances this de-briefing should be completed on return to work as part of adding value to the training. In monetary terms this may well be impossible to measure but the perception that a benefit has occurred is just as valid. It is a management responsibility to help ensure that the resources are used to the best advantage.

Interview Response Analysis

Note. The figure/s contained in brackets, indicate the numbers of respondents who mentioned that particular aspect in their response during interview.-

1.Feedback

At present, three methods are employed to collect feedback, these are the end of course Evaluation Form, the Application of Learning Form (sent out after 4 months) and where possible an oral debrief.

a) Could you say what elements of the current course evaluation you find of particular value? Could you tell me why you have chosen these particular elements?

Elements of value	Reasons for choice
1.The Course Evaluation Form was considered by nearly all respondents to be the most valuable, but not always for the same reason (14)	1. This is because it is an immediate reaction to the course , its content or presentation. The information is fresh. There is no time for considered reflection.
2. A normal de-brief either by the course provider or the Line Management, being the most useful (1)	2. Considered that this was the best way of gaining the most open and honest response to the course.
3. A number of respondents felt that all the methods were useful and provided valuable information. (2)	3. Considered that all the factors were important in the make up of the whole picture rather than concentrating on the different evidence provided by the various methods.

<p>4. The Application of Learning Form (4 month) usefulness depended on the type of training received. (7)</p>	<p>4. This was dependant on the training being of a type which could be put into practice in the immediate future or if it was one that was run to provide background knowledge.</p>
<p>5. One thought that it was important to know about factors other than the contents, e.g. accommodation and support services.(1)</p>	<p>5. This is in line with the concept of evaluation of the whole curriculum.</p>

a) **Could you describe ways in which the current system of course evaluation could be improved? What are your reasons for suggesting these changes?**

Suggestion Improvements	Reason for Choice
1. More time could be allowed for the completion of the Course Evaluation Form. (9)	1. This was mentioned by the majority of the respondents and could be considered an example of good practice. At present the tendency is to issue the Course Evaluation Form at the end of the course, or if issued before, not to draw attention to it until the request for completion is made at the end. Possible disadvantage is the loss of teaching time on a short intensive course.
2. Students should be encouraged to take away the Course Evaluation Form to be completed within a week and returned. (11)	2. The majority of the respondents considered this a good idea in principle as it would give time for reflection and considered comments. However, the general feeling was that despite the good intentions the forms would not get returned. It was suggested that when necessary the Administration support staff could follow up instances of non-returns.
3. A separate sheet could be given out at the start of the course and called a Learning Log or some similar. Time could be allocated at least twice per day to the completion of this form.	3. This was considered worthy of experimentation and indeed a small number of the respondents had experience of such a system. This suggestion was made by one respondent and when raised at subsequent interviews received some support. Especially suitable when a training event involves a number of different speakers. The problem with filling in the original form as the course proceeds is

<p>.At the end of the course it could either:-</p> <p>a) be copied and the copy retained as a form of course evaluation or</p> <p>b) used as a basis for the completion of an actual Course Evaluation Form. (5)</p> <p>4. As an extra check, a random sample could be taken of students from recent courses. Brief telephone interviews could then be conducted by a third party not directly connected with the Training Provider. The responses would be rendered anonymous and the results passed to the Training Providers. (5)</p> <p>5. A redesign of the Course Evaluation Form to make it easier for the students to complete and easier for the Trainers to evaluate. (4)</p>	<p>that something that is not clearly explained may be dealt with in subsequent sessions.</p> <p>4. This could be incorporated as part of the quality audit process across the organisation. The researcher would have to be correctly briefed or have an script, approved by the Training Centre for educational content, from which to work.</p> <p>5. The approach here is to make the form filling to be as simple as possible, with the Form designer being asked to design a layout that provided the information but in a format that was as simple as possible to use. This involves the use of multi-choice questions and scales from one to ten, possible</p>
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<p>6.It all depends on the course. If it is a technical course which is topic specific and is of operational relevance, then an end of course student assessment is important, especially where there is a real possibility of failure. In the case of a more general or a soft skills course such as Professional Communications the assessment of the students learning, difficult or impossible, particularly in the short term.(6)</p>	<p>with a little space left at the end to allow for comments.</p> <p>6.One respondent was keen that the two types of courses be treated differently, with a clear separation being made between those that are of immediate use and those of a more general nature</p>
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2. Effectiveness

The current evaluation model seeks to gather responses at the course conclusion and again after four months. Could you describe any aspects of this approach that you find of particular value?

Note. This question differs from Q.1 in that it is designed to enquire into the effectiveness rather than the methods themselves.

Method	General Observations
1. Course Evaluation Form.	1. This was considered the most effective means of gathering information, either as to the course content or presentation or any other matter directly or indirectly related to the course. The information was fresh and the impression made recent. (15)
2. Oral De-brief.	2. This was considered the second most important method of gathering information. As people who would not normally make written comment, for whatever reason, can be encouraged to discuss the event in a collective forum. (14)
3 Application of Learning Form (after 4 months).	3. This is a good opportunity to revisit the purpose for which the person was sent on the training and to determine if the results of the training had been used over the 4-month period. However, largely regarded as ineffective or a waste of time. (6)

b) Have you any comments on the overall effectiveness/value of this approach to course evaluation?

Comment
1. The majority of respondents viewed the Course Evaluation Form as the most effective method, followed by the concept of the oral de-brief. Many of those questioned had no experience of an oral de-brief but considered the idea had merit. (9)
2. The 4-month Application of Learning Form is considered not to be very effective, as the interval of 4 months is thought to be too long. Opinion differed as to a more effective time period. Many respondents conceded that this was an aspect that they had not considered, the period of two months was often mentioned. (9)
3. Overall the feeling was that, keeping in mind the caveats mentioned elsewhere, that the Course Evaluation Form was as effective as it was possible to achieve. Estimates of the truthfulness of the comments on the Course Evaluation Form varied from 60% to 80% . (15)

3. Impact

Training is an expensive process and any organisation would be interested to know if the results justify the resources expended.

a) Could you describe ways in which the effects of training could be estimated, from the perspective of:-

- 1) The individual and**
- 2) Operational efficiency of the group**

General Observations

1. Line Managers accepted that the assessment of the success or otherwise of the training programme was a responsibility for Management.(3)
2. All respondents displayed hesitation when this question was put.(15)
3. The respondents were unable to differentiate completely, between the effect on the individual's performance and the operational efficiency of the organisation. The view widely expressed is that surveyors normally work alone, dealing with complex statutory requirements but also with a considerable degree of discretion on what to accept or reject. Consequently it is very difficult to gain any measure of performance.(15)
4. As this is a service industry there is no published standard method of measuring productivity. There are insufficient customer complaints, which in itself is a satisfactory situation, to be able to use this as a training effect measure. A possible distortion in using such a method as a measure is that most of the Agencies 'customers', have no choice but to deal with the MCA in its capacity as the National Maritime Administration. There may be a reluctance to complain about aspects of customer service, where goodwill or lack of it can have a profound effect on working relationships between the two parties.(9)
5. An analysis of the number of training hours would indicate the attempt by an individual to retain their intellectual capital.(2)
6. The programme has not been running long enough for any effect to be felt at the organisational level.(2)
7. Peer reviews would be a useful way to ensure continued proficiency. However this requires trained review staff, trusted both for their personal integrity and professional competence, all of which represents a considerable commitment of resources.(7)

8. Suggested that there could be two measures employed, which have been termed ‘hard’ and ‘soft’ measures. A ‘hard’ measure would be the number of end-of-course assessment passes, or analyse the time spent on training. A ‘soft’ measure is harder to define but could be time spent on other updating activities other than structured courses. This could be achieved by the traditional method of Continuous Professional Development (CPD) used by many organisations. (4)

4. New entrant surveyors

The original intention of the programme was to provide a structured training scheme for new entrant surveyors.

a) **Could you describe what you consider the particular strengths of the course? Could you suggest specific areas for improvement?**

Strengths
1. Structured approach which had not existed for a long time. (14)
2. Designed and written by educational and technical professionals which give ownership to the programme.(2)
3. Designed to take a new entrant through the acquisition of new knowledge whilst giving credit for past experience, through the Accreditation of Prior Learning (APL), to this extent the programme for each new entry is tailor made.(6)
4. The training is recordable and can be measured, in so far as the amount of time spent on training and the course undertaken.(5)
5. A useful tool for Line Management to ensure that their staff are correctly trained. (3)

6. The ability to demonstrate to colleagues, customers, national and international bodies that a structured training regime exists.(2)

7. If implemented correctly, will encourage standardisation across the organisation.(2)

Suggested specific areas of improvement

1. Would have been improved if there was a link with the academic standards of an external Institute or University.(5)

2. Must be subject to periodic reviews and be organic in nature, able to be pro-active where possible, and reactive where not, to changing circumstances.(10)

3. The widening of the scope to include 'customer facing skills', in the programme. Many new entrants have been senior officers but that does not automatically make them into people with good interpersonal skills, in spite of evidence to the contrary.(2)

4. Line Management awareness and training in the programme is not as effective as it could be, with a degree of ignorance about the programme that will hinder its successful implementation. (5)

In you own experience; do you think that the programme is ‘fit for purpose’?

Confirmed fit for purpose

1. Structured approach which had not existed for a long time, but all expressed reservations. (14)
2. Considered that it was a waste of time and the MCA should return to the old style ‘confirmatory’ scheme’. (1)
3. Specific mention of the link with the Scottish Qualifications Authority as an outside verifier . (2)
4. Regarded as a positive step. (1)

Reservations

1. Limited knowledge of the programme and so were unable to make constructive comments (2)
2. Would have been improved if there was a link with the academic standards of an external Institute or University.(5)
3. No reservations expressed.
4. Must be subject to periodic reviews and be organic in nature able to be pro-active where possible, and reactive where not, to changing circumstances.(10)

5 Existing staff.

At the programme launch in April 2007, it was announced that the programme would also apply to all existing staff, as a means of recording competence and as a method of CPD.

In what ways do you think this policy was received by experienced staff ? Could you give any examples of the responses?

General Observations

1. The feeling expressed was that the Management did not realise the extent of the commitment in terms of resources, mainly in time involved to make the scheme a success. There was little indication that the training time allowed, said to be 10% of working time would be made a 'hard target' but would stay as an aspiration to be met after the hard targets had been achieved. These hard targets are ones that are required to be met and are set by the Executive Board and require detailed explanations if not achieved.(9)
2. Considered to be a way of reducing standards and getting staff 'on the cheap'.(1)
3. Seen as .proof of expertise and a continuous record of CPD.(3)
4. This is no more that the organisation itself expects when conducting audits on third party operations.(1)
5. Considered to be the right way to deal with the inevitable changes that lie ahead.(2)
6. Considered to be a complete waste of time as the present staff regard themselves as qualified experienced professionals without any need to prove anything to anybody.(2)

7.The programme is seen as something extra to do on top of the day to-day work load. (2)

Was this move seen as a benefit or a threat to the professional integrity of experienced people?

General Observations

1. Despite the fact that the organisation sent an individual letter to each member of staff affected, a number reported a degree of ignorance about the programme and its effect on themselves. (3)
- 2.Respondents had little knowledge of the scheme (3)
3. Many of those interviewed reported initially feeling uncertain of the requirements, moving to resignation as just another task ending with a more positive attitude that in the longer term would be seen as a benefit. (8)
4. Regarded directly as a threat.(1)

6. Future development

This programme was designed to be periodically updated in the light of experience and changing needs.

Could you give specific examples of aspects of the current programme that might be revised in the future?

General Observations

- 1.The increasing need for interpersonal communications training was emphasised, reflecting the importance of this behavioural aspect of the work.(2)
- 2.In due course the programme needs to be expanded to encompass other technical grades within the organisation.(1)
3. Increased use of distance learning to avoid the extra costs involved in travel and overnight accommodation. This can have two benefits, the first being to reduce the time spent on a course by doing essential pre-course revision, or up-dating work beforehand, and, secondly eliminate some of the need to collect people at a central training location with all its accompanying cost.(3)
4. A factor affecting programme acceptance is a lack of understanding of the philosophy underpinning the whole structure. This is fundamental to the success of the programme. (2)
- 5.Due to the increasing specialisation and sophistication of ships, steps should be taken to incorporate, for existing staff, measures to maintain contact with practicing professionals in the various specialisations.(2)
6. Lack of clear direction as to the ultimate purpose of the Agency, in particular the Survey and Inspection Branch. The out-sourcing of many functions has resulted in lost expertise in many areas. (3).

Secondary Data. Analysis

Four months after the course each student is sent, electronically, a copy of the Application of Learning Form, in an effort to collect data on the perceived effectiveness of the training provided. A blank copy is included, for reference, as Appendix 3. This data has been provided by the MCA Training Centre for use in this thesis. The data is divided into three separate areas, 1) the Trainee's assessment of the value of the training, 2) the Line Manager's observation of positive changes in the Trainee's behaviour and 3) the Line Manager's assessment of the benefits to the team. These are very much qualitative measures based on individual perceptions. Given the difficulty of being objective and the relatively low number of returns it could be argued that they paint a picture that is more positive than is the case. Again it would take considerable research to investigate this further in order to prove or disprove this statement.

The data provided covers not only returns from Survey and Inspection but also Coastguard Technical and other Non-Technical courses. Due to the low return rate these have been included by way of comparison of the reception of training across the Agency. The column headed No Response indicates that although the form was returned, no entries were made under that particular heading.

Areas 1

Value of Course to Trainee	Extremely Valuable	Quite Valuable	Little Value	No Value	No Response	Totals
Coastguard	42	32	4	0	0	78
Non-Technical	47	77	14	2	1	141
Survey & Inspection	25	44	5	0	1	75
TOTALS	114	153	23	2	2	294
	39%	52%	8%	1%	1%	100%

91%

Comment:- This return reflects students assessment of the value they place on the training received, which is of necessity, subjective. If the two responses for ‘extremely valuable’ and ‘quite valuable’ are taken together, the replies indicate a high degree of personal satisfaction . Separating out the figures for Survey and Inspection the respective figures are ‘extremely valuable’ 33% and ‘quite valuable’ 59% which is close to the overall figures.

Trainee Achievement of Post-Course Objectives	Very Successful	Some Success	Little Success	No Success	No Response	Totals
Coastguard	27	30	3	1	17	78
Non-Technical	25	46	2	2	66	141
Survey & Inspection	15	26	7	0	27	75
TOTALS	67	102	12	3	110	294
	23%	35%	4%	1%	37%	100%
	57%					

Comment:- Here the reflection of success is not so marked as only 57% regarded the training as being ‘successful’ or had ‘some success’, of which only 23% thought that the training had been ‘very successful’ in terms of achieving post-course objectives. If the figures for Survey and Inspection are looked at individually the result shows a lower level of satisfaction with 20% reporting ‘very successful’ and 33% reporting ‘some success’. This would indicate that there is a possible problem, in that either the selection of the training for that individual was incorrect, or the training was not up to expectations in terms of fulfilling the course objectives. The former is a Line Management problem the other a Training Centre concern.

Trainee's Assessment of Learning & Development Effectiveness	Very Effective	Effective	Partially Effective	Not Effective	No Response	Totals
Coastguard	33	41	4	0	0	78
Non-Technical	38	85	12	5	1	141
Survey & Inspection	25	39	7	1	3	75
TOTALS	96	165	23	6	4	294
	33%	56%	8%	2%	1%	100%
	89%					

Comment:- The intention of this question is to gauge the trainee's perception of the effectiveness in relation to Learning and Development in the wider sense. The percentages for Survey and Inspection are 'effective' 52% and 'very effective' 33% which is in agreement with the overall average. However, there are no instructions on the Form to give guidance as to how this aspect, nor indeed any other aspect, is to be judged.

Observed Positive Changes in Trainee Performance	Great Change	Some Change	A Little Change	No Change	No Response	Totals
Coastguard	14	50	4	3	7	78
Non-Technical	15	90	18	11	7	141
Survey & Inspection	6	47	13	3	6	75
TOTALS	35	187	35	17	20	294
	12%	64%	12%	6%	7%	100%
	76%					

Comments :- Again this is a comment that originates from the immediate Line Manager and if honestly done should reflect the perceived benefit to the Agency of the training undertaken. The average across the Organization as a whole for 'some benefit' and 'great benefit' is 76% which must be considered a very positive achievement. The figures for

Survey and Inspection under ‘some benefit’ 20% and ‘great benefit’ 51% which are in line with the result obtained for the Organization as a whole.

Area 3

Manager's Assessment of Learning & Development Effectiveness	Very Effective	Effective	Partially Effective	Not Effective	No Response	Totals
Coastguard	25	44	3	0	6	78
Non-Technical	28	82	19	6	6	141
Survey & Inspection	18	40	11	1	4	74
TOTALS	71	166	33	7	16	293
	24%	56%	11%	2%	5%	100%
	81%					

Comment:- This attempts to put a measure on the benefit to the Organization in terms of Learning and Development. The combined total for ‘very effective’ 24% and ‘effective’ 56% are very encouraging as they would seem to indicate that the programme is having a positive effect, but maybe not as much as could be hoped. The remainder is made up of some 19% that considered that the training was ‘partially effective/not effective’. It is interesting to note that the number of ‘no response’ is quite high, compared with the rest of the survey. The figures for Survey and Inspection are ‘very effective’ 24% and for ‘effective’ 53% combined total of 77% which correlates favourably with the overall figure.

The above finding would seem to indicate that those participating in the work under scrutiny respond in a number of different ways. As there is no guidance provided as to the meaning of the various phases used, such as ‘effective’, ‘partially effective’ and ‘not effective’, it is left to the reporting officers to employ individual interpretations with the inevitable variations in approach.

The low response rate is of concern. Does it indicate a lack of interest in training at a personal or management level, satisfaction at the training provision and no comment is considered necessary or reaction to what could be seen as another items of paperwork that serves no useful purpose? There are possibly many factors at work and further research would be needed to determine the reason or reasons.

Chapter Five

Summary, Conclusion and Recommendations

‘The truth is an ambition which is beyond us’

(Peter Ustinov 1921 – 2004, author and actor)

This final Chapter summarises, draws conclusions and suggests improvements, based on the evidence collected. The main points from the research have been arranged in the form of a Research Summary. This achieves two objectives; the first is to identify the responses where there is a level of agreement. The second is to identify areas where differing views have been expressed. It must be kept in mind, that even when quantitative data is shown, it has been developed from qualitative or subjective sources, and the small sample size has the effect of adding disproportionate weight, to views expressed by a minority of people.

Research Summary

N.B. Numbers in brackets indicate reference to Notes at the foot of the table

	% (2)	Student Assessment and Curriculum Evaluation Questionnaire	Interview Responses
1		PURPOSE OF ASSESSMENT	
	23	To provide evidence of changing ability to perform task	To prove competency and to keep up-to-date.
	13	To confirm competence against a set criteria.	Seen as necessary but the form of student assessment dependant on the course. If the subject was of immediate operational significance then assessment was important.
	65	Both	However if the subject was for longer term information or what has been termed ‘soft’ skills, then not so important. Soft skills mainly refer to the management and human relations arena.

2		ASSESSMENT METHOD TO REVALIDATE SKILLS	
	68 39 36	Proof of practice Continuous assessment Task based assessment	This shows that the use of a variety of methods is acceptable, depending on the type of the training being undertaken.
3		CLASSIFICATION OF RESULTS TO REVALIDATE SKILLS	
	68 25	A statement 'competent' or 'not yet competent' Pass/Fail	The main response was for the NVQ style of 'competent' or 'not yet competent'? It was felt to be a clear statement of result rather than a fairly meaningless mark or grade. The surveyor is either able to undertake the task or is not.
4		ACTION IN EVENT OF STUDENT ASSESSMENT FAILURE	
	51 42	Re-take the training. Re-take the failed part of the assessment.	Time would be of concern in the event of failure. A lot would depend on the true commitment of the organisation to training. The majority agreed that the acceptable method was to re-take the assessment. A last resort would be to re-take the training. An alternative that was suggested and rejected by the majority was for the Line Management to be informed as to the assessment results.
		Assessment and Evaluation Questionnaire	Interview Responses
5		REACTION TO INTRODUCTION OF STUDENTS ASSESSMENTS	
	39 29	Concerned about consequences Welcomed the concept	1. Nearly all expressed the same common mixture of emotions. a) Management did not realise the extent of the resources required for proper implementation. b) Few regarded it as a threat more of just another task to perform in the same working day. 4. Many regarded it as benefit in the long term, if implemented correctly.
6		TUTOR SKILLS – TEACHING QUALIFICATIONS AND USING RANGE OF TECHNIQUES	
	51 42	Would be useful Important	The possession of formal teaching qualifications not seen as having overwhelming importance. Having some experience of presentation or

				having attended a short course on the subject was often seen as sufficient.
7		TUTOR SKILLS-PROFESSIONAL KNOWLEDGE		
	76	Very important		Would expect a tutor at this level to have extensive and up-to-date knowledge.
8		TUTOR SKILLS – PERSONALITY		
	64	Very important		Considered very important, mainly from the aspect of credibility with the highly professional students.
	38	Important		
9		PRE-COURSE READING		
	56	Would read it before the course		This has the potential to reduce course time and so costs. However from the responses it was doubtful if the material would be studied by the majority before the course. This due to perceived pressure on the time allowed for training.
	26	Would catch up during the course		
10		QUALITY OF TEACHING ENVIRONMENT		
	50	Important		Generally viewed as very important with such things as temperature, lighting and seating being mentioned. In addition the environment in which the training venue was set is also important.
	27	Very important		
		Assessment and Evaluation Questionnaire		Interview Responses
11		REACTION TO ROLE PLAY		
	76	Useful Other comments split between embarrassing and of no benefit		
12		NEW ENTRY SURVEY -STRONG POINTS (Case Study specific)		
				1 Provides a structure that did not exist beforehand. 2. Recordable and can be measured. 3. Gives credit for past experience through APL.
13		EXISTING SCHEME – FIT FOR PURPOSE		

				<p>1. Almost all agreed that the scheme was 'fit for purpose' but with reservations.</p> <p>2. Main reservation was that it was developed to keep pace with change.</p>
	(1)	4 month returns		Interview Responses
14		VALUE OF COURSE TO TRAINEE		
	33	Extremely valuable		
	58	Quite valuable		
15		ACHIEVEMENT PRE AND POST COURSE OBJECTIVES		
	20	Very successful		The best managers enquire into this aspect but there are indications that the majority know it is best practice but claim lack of time is the restricting factor.
	35	Some success		
	10	Little success		
16		TRAINEE'S ASSESSMENT OF LEARNING & DEVELOPMENT		
	33	Very effective		
	52	Effective		
	9	Partially effective		
17		OBSERVED POSITIVE CHANGES IN TRAINEE. BEHAVIOUR		
	8	Great change		This is a very subjective measure. As the majority of surveyors work alone, unless the Line Management take the time and trouble to accompany staff on a regular basis, it is not one they are qualified to comment on. This factor alone will detract from the value of any training.
	62	Some change		
	17	A little change		
18		LINE MANAGERS ASSESSMENT OF LERNING AND DEVELOPMENT EFFECTIVENESS		
	24	Very effective		This is difficult or impossible to measure as it depends on the type of training being provided.
	54	Effective		
	15	Partially effective		

Note

1. The percentages used for the 4-month review are those recorded for the Survey and Inspection Branch
2. Where there is a clear indication of preference only one percentage value is shown, but where there is a significant figure for other options these are also shown.

Conclusions

At the beginning of this study, four questions, in two groups, were posed:

Group One

No.1 “Does the existing method of student assessment provide meaningful information about the learning that has taken place?” and

No.2. “Does the existing method of curriculum evaluation provide meaningful information?”

Group Two

No.3 “What improvements in student assessment can be made in the future?” and

No.4 “Is there a better way of evaluating the effectiveness of the delivered training?”

Group 1

Question 1 ‘Does the existing method of student assessment provide meaningful information about the learning that has taken place?’

The operative word in this question is ‘meaningful’, implying information useful to those concerned. This is not only the individual student, but also the Manager who has responsibility for training and professional development.

The work of Jessup, in conjunction with vocational training and that of Eraut in the development of professionals, indicates that the NVQ style Outcome of ‘competent’ or ‘not yet competent’ is the appropriate one for this group. This is confirmed by the research which shows a similar choice would be made by practitioners, taking the view that the person either can or cannot do the task. However, Jessup’s outcome model has to be slightly modified to allow for the use of APL. A criticism of this simplistic method is that it does not rank the individual’s proficiency against an agreed scale. In the Case

Study, there was shown to be a need to differentiate between the skill levels required from the three different disciplines, for instance does a Marine Engineer need to know as much about Marine Navigation as someone trained in the subject. It is impossible for surveyors to be expert in all three disciplines, but a base level of knowledge is needed to be able to operate effectively. This requires a levelling exercise, which is a process of deciding the level of knowledge required by different staff in relation to the task.

The Case Study, identified that for the majority of the 2007 Scheme, there is no assessment strategy and where one does exist, is not robust. The Line Manager who certifies the trainee as competent has to rely on professional judgement to justify the decision, without the support of an assessment strategy.

It is clear that while the existing system goes some way towards assessment of student learning based on firm foundations; there are improvements that will enhance the assessment system still further.

No.2 “Does the existing method of curriculum evaluation provide meaningful information?”

Here again the important word is ‘meaningful’. The answer to this must vary depending on who needs what information. The requirements of the student, (is it worth while?) could be different from that of the Line Manager (do I have better trained staff?) to that of the Manager responsible for the budget (are we getting value for money?) This is the reason that there is an interest in developing Kirkpatrick to another level, referred to as Kirkpatrick Plus, as suggested by several authors. (Hamblin, 1974; and developed by Kaufman and Keller 1994; cited in Tamkin, 2002, 5, 6).

a) An individual's perspective.

The research confirmed that the majority of those questioned regarded the Course Evaluation Form as the best way in which information, in the form of feedback, could be gathered. However, this widespread approval was accompanied by some reservations. The normal practice is that the forms are issued at or near the end of the course, prompting criticism on several grounds a) that there is little time at the end of the course to complete the paperwork, especially as the majority of students have travel arrangements that have to be kept, b) if it is a long course, especially one that has involved a number of different speakers, there is the difficulty of remembering detailed comments several days after the event. It was suggested that in order to improve the quality of the feedback, the forms are issued at the beginning of the training and some form of session by session note-taking encouraged. The Course Evaluation Form would be compiled from these notes. This idea gained support from the majority of those questioned. The research also indicated that, for a number of reasons, comments made at the course end, cannot be taken as a considered response with an estimated accuracy from 60% to 80%. Two main reasons mentioned, were lack of time to reflect and unwillingness to hurt the feelings of the lecturer by making what could be interpreted as negative comments. It was also noted that, even though the comments made are anonymous, it is usually possible for the tutor to deduce the source. This is an important factor in an organisation where people have worked together over many years and are concerned at the possibility of damaging relationships. A more measured response would be achieved if more time was allowed for reflection but there are practical considerations limiting the time available.

b) A Management perspective.

As Line Management is one step removed from the actual training, reliance must be placed on information being feedback, mainly from the student, as to all aspects of the training programme. Conversely, it is not seen as a management practice to communicate concerns to the training provider either before, during or after the training. Having said that, there may be occasions when unofficial confidential communications occur, but which cannot be used or recorded in an official manner. Several managers when questioned recognised that this was a drawback, but had never given the matter much thought. There is a potential conflict between the need to obtain the maximum feedback and the overriding desire to maintain a safe learning environment.

However, this information gap can be filled, at least partially, by the use of the pre- and post-course discussion with the student. While the research indicated that this is valued, there is cause to doubt the extent to which this is practised. Frequent comments were made concerning the lack of time available and the constant need to achieve operational targets, in which training is not included. There is a bi-annual opportunity to explore this route, in the form of the Personal Performance Plan. However, to gain full benefit from the course, de-briefs should take place shortly after the training. Whilst it is recognised that good managers will follow this route, it is felt that they are in a minority. Even when this is practised and feedback on the course communicated between student and manager, interviews confirm that although this might be passed along the management chain, it is never passed directly back to the Training Centre. It is clear that, having time to reflect and with the feedback being expressed verbally, rather than written, different information may well emerge than reported on the Course Evaluation Form. The interest is not only in the contents as equally important is the

professional credibility of the presenters, which encompasses teaching ability, subject knowledge and interaction with the students.

Here Kolb's theory of the Learning Cycle is important. It is clear from the research that the feedback system operates as an open or negative reporting system and does not close the loop as Kolb envisaged. Consequently much valuable information is either gathered and not shared or the opportunity for gathering this information is lost in the first place.

Bloom's work on his Cognitive Domain, considered to have a hierarchy of layers, is also relevant in this instance, as it refers to intellectual capacity. It builds on an initial layer of knowledge, moving through application up to evaluation. This is confirmed in the VQ type structure of the MCA/SQA Customised Awards where there is the underpinning knowledge, its application and ending with an evaluation of all that has gone before.

In summary, the present system does provide meaningful information on the learning, but could provide further useful data.

Group 2

No.3 “What improvements in assessment of student learning, can be made in the future”

The research indicates that the preferred form of assessment is a combination of continuous assessment and proof of practice, resulting in a statement of 'competent' or 'not yet competent'. The idea of a mark or grade being assigned was not considered as

being very useful, as competence to achieve the task was the primary concern. The majority of the interviewees considered that, for assessment of student learning purposes, the portfolio of training courses could be separated into two classifications. Those that have an immediate operational significance, such as a new technology or ship type and those designed to improve the level of education, such as awareness or management training. The reason may be that the skills or knowledge gained would be better assessed in different ways. The immediate operational needs can be measured by an end of course assessment, with a pass/fail result complemented by a demonstration of the ability to apply the learning. This can be achieved by a series of witnessed and observed operational visits. This involves the trainee observing the work of an experienced colleague. This is followed by the trainee undertaking the work themselves with an experienced colleague witnessing the work being done. This is practised, at least to a certain extent, at present, as it is one of the requirements built into the Customised Award Scheme. The second type would be limited to an end of course assessment of student learning, as it would be impossible to achieve any further measure of the learning, at least in the short term. The confirmation of operational ability is practised at present, but not formalised, recorded and subject to audit.

No.4“Is there a better way of evaluating the effectiveness of the delivered training?”

a) An individual’s perspective

There are two avenues that the individual has available for contributing information to the curriculum evaluation process. These are feedback, normally via the Course Evaluation Form and the results of an assessment of student learning carried out during the training.

The Course Evaluation Form needs to be re-visited to determine that the data being requested is appropriate. That is, it must be relevant and collected in such a way as to be translated into useful information about the quality of the training. The research has suggested several ways in which this can be achieved. The form could be re-drafted to include as many tick box replies as possible or arranged as a series of sliding scales, from 1 to 10, with a space for comment at the end. Should resources allow, ideally this could be computer read and the results displayed in a pictorial fashion. Another worthwhile suggestion is for a Learning Log, or some similar title, issued at the start of a course and time allowed after each session for notes to be taken. At the course end, this Learning Log could be used to compile the Course Evaluation Form.

An important method of feedback, that at present would appear to be neglected, is the use of de-briefing interviews either by the training provider or the Line Management. Research indicates that this form of feedback, while not widely practised, would be welcomed and not found threatening in any way. This includes feedback from tutor, and peer groups, to the student. As part of the quality control system, a regime of random telephone samples could be introduced. These would need to be carried out by a third party, independent of the training provider, soon after the event and using trained personnel working from a carefully prepared script. The information would be rendered anonymous and a report provided to the training provider.

c) A Management prospective

Those organisations with a well-developed training culture, often termed a learning organisation, will have systems in place to measure the learning achieved. Indications from options expressed during the research do not portray the MCA as such a learning

organisation. Feedback has not been developed into a true and effective closed-loop system with the student, all levels of management and the training provider involved in the dialogue. It is true that an attempt has been made with the introduction of the 4-month review. However, two factors cast doubt on the effectiveness of this mechanism as operated at present. The primary cause for concern is the low response rate, currently 12%, reflecting the degree of importance that the staff attach to this activity. The other point is that it is the immediate line management who are 'in the loop' and then only to a limited extent. Consequently there is no structured input from more senior managers as to the training needs of the business. It is known that once the 4-month return information is logged no real use is made of the data collected. On this basis and at any management level in the organisation, the system is not producing any meaningful information. In addition, there is no evidence that such information that is available is being put to good use

Mention has been made in this thesis, of the Customised Awards. It was intended, at the launch, that the four Customised Award work books would form a Training Record and be further developed, with experience, into a Record of Continuous Professional Development.

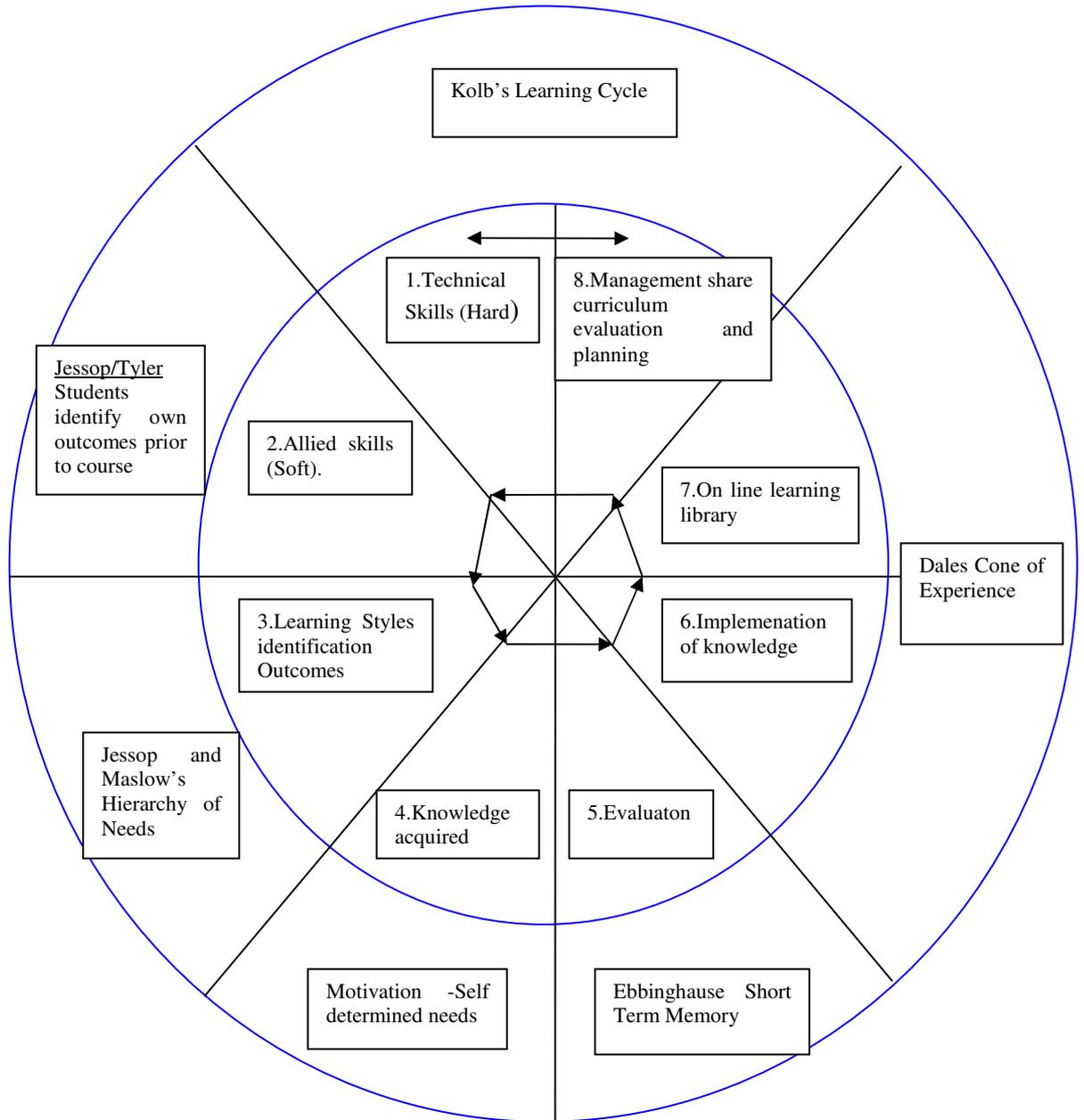


Fig. 5.1 Doing an even better job – The Learning Organisation

The summary chart (Fig.5.1) demonstrates the link between the work of the principle theorist and the practical aspects of the training programme. The inner ring illustrates, in an anti-clockwise direction, all the aspects that would be required of a Learning Organisation. The outer circle identifies some of the authors of prominent theories or comments on that specific aspect of the learning process.

Recommendations

As mentioned earlier, the salient points of the research are divided between those relevant to the subject in general and those that are specific to the Case Study.

Generic or Non-specific Recommendations

Student Assessment

1. The courses in the training programme should be divided into two groups with different assessment criteria assigned to each. Group One – those of immediate operational significances and Group Two – all the other courses, especially those that are intended for a longer term benefit, such as management and inter-personnel skills.
2. A clear and robust assessment strategy be developed, which takes into account the highly skilled nature of the students.
3. A robust Continuous Professional Development (CPD) scheme be developed and implemented. (refer to Fig 5.1)

Curriculum Evaluation.

1. Schedule regular meetings to review the progress of the programme and to update the course material.
2. A robust feedback system is put in place to close the loop from student, back to training provider with suitable input at a senior management level.
3. The Course Evaluation Form is re-visited to ensure that it is as simple and practicable as possible and at the same time providing useful information.

Case Study Specific Recommendations

Assessment of Student Learning

1. The mode of assessment of student learning should be closely examined. The preferred mode, as the research indicates, is by continuous assessment accompanied by

proof of practice with an outcome of 'competent' or 'not yet competent'. This should be introduced as a standard method, where practical.

2. An element of self assessment should be encouraged. This takes place to a certain extent with the PPP, but a more formal and open approach would benefit the learning.

3. Use of pre-course study material, in any suitable format, to be developed and its use encouraged.

Curriculum Evaluation

1. Schedule regular meetings to review the progress of the programme and to update the course material.

2. More use made of pre- and post-course oral debriefs to gain the maximum benefit from the learning. To be conducted at the conclusion of the training and/or on return to the base office.

Finally

It is clear to the researcher, reinforced by personnel experience and confirmed by comments made during the research that one important aspect has so far not been fully explored, that of overall control.

In order to become a Learning Organisation, committed to the free exchange of information and the creation of knowledge, there needs to be a cultural change, to one where students are considered an integral part of the learning process.

For any training scheme, to succeed there has to be a Manager, solely responsible for training and development. Furthermore, the designated person has to be senior enough

to be able to take and enforce policy decisions, with the full support of the Management Team.

Sadly, in the matter of this Case Study, this latter aspect was missing.

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Appendix No.1

Competency Levels

Level One An awareness that there are Regulations in existence about the subject.

Level Two An outline knowledge of the subject and knowledge of where to find further information.

Level Three A working knowledge of the regulations concerning the subject. The Inspector would be expected to undertake day-to-day tasks without supervision but should understand when it is appropriate to seek assistance.

Level Four Considered to be the subject expert. The source of knowledge and guidance for other Inspectors.

Appendix .2

SURVEYOR TECHNICAL COMPETENCY SET

	Subject	Outcomes
1	Ship Construction	Survey staff are able to carry out survey and inspection duties and effectively liaise with maritime industry. In doing this they demonstrate an understanding and apply a knowledge of ship construction methodology and the demands and stresses placed on such structures by the marine environment.
2	Naval Architecture	Survey staff are able to demonstrate an understanding and apply a knowledge of the theory of ship stability including knowledge of the forces and moments acting upon vessels in the marine environment caused by both internal and external influences. This knowledge to enable staff to assess the safety of design and the condition of stability if a vessel in varying circumstances.
3	Marine Engineering	Survey staff are able to demonstrate an understanding and apply a knowledge of the theory and practice of marine engineering. This knowledge to encompass the efficient and safe design, operation and maintenance of ship machinery.
4	Maritime Operations	Survey staff are able to demonstrate an understanding and apply a knowledge of the principles and practice of good seamanship. This knowledge enabling staff to liaise effectively with ship personnel with regard to the safe conduct of both the vessel and operations on board.
5	Ship Types and Design	Survey staff are able to demonstrate an understanding and apply a knowledge of design and purpose of various craft as appropriate to the task in hand. This to enable staff to effectively liaise with vessel operators with an appreciation of the demands, constraints, facts and factors which such operators face.
6	Ships' Equipment	Survey staff are able to demonstrate an understanding and apply a knowledge of the design, purpose and operation of ship equipment. This knowledge enabling staff to ensure that such equipment is correctly installed, maintained, fit for purpose and that ship staff

		can operate it safely and effectively.
7	Seafarers' Standards	Survey staff are able to demonstrate an understanding and apply a knowledge of standards and certification required of seagoing workers. This knowledge to help ensure that such seafarers are capable of carrying out their duties safely and in accordance with the relevant statutory requirements.
8	Ship Health and Safety and Welfare	Survey staff have a knowledge of standards which are applicable to the maintenance of the health, safety and welfare of seafarers. This knowledge to be applied within the survey and inspection of vessels thus ensuring safer lives at sea.
9	Marine Casualty Operations	Staff engaged in these operations have an understanding and apply a knowledge of the function of a Marine Casualty Officer' (MCO) role and the organisational context in which the MCO operates.
10	Environmental Protection	Staff have a knowledge of the relevant regulations relating to protection of the environment and the obligations these place on seafarers and the maritime industry. This knowledge is demonstrated through effective liaison with all parties thus serving to minimise the impact of potential pollution on UK interests.
11	Maritime Legislation, Guidance and Codes of Practice	Survey staff have a knowledge of the Maritime legislation and guidance relevant to their role. They are able to demonstrate this through effective advice and liaison with maritime industry and by expert contribution to the structure and design of such legislation as appropriate.
12	Enforcement	Survey staff are able to apply a knowledge of maritime legislation and the correct working practices in investigating malpractice resulting in a breach of the same.

Appendix 3



APPLICATION OF LEARNING

Name _____ Course Title _____

Branch/Location _____ Course Date _____

The MCA is keen to measure the effectiveness of its training programmes and to receive feedback on how learning is being used in the workplace. It is now a few months since you attended the above course and you will hopefully have had a chance to apply your learning. The Training Centre would like to seek your views and those of your manager about the training you received and the use you have made of it.

Course Delegate: Please complete Parts 1 & 2 of this form within two weeks of receipt and click on the button at the end of Part 2 to forward it on to your line manager.

Line Manager: If you have been asked to complete this form in your capacity as a line manager, please go to Part 3.

PART 1 - ABOUT THE COURSE

1. Looking back on the course, what has proved to be:

a) Most useful?

b) Least useful?

2. Do you think the course could have been improved in any way? If yes, how?

3. On reflection, how valuable has the course been to you personally?

Extremely Valuable

Quite Valuable

Little Value

No Value

4. Any other comments about the course?

PART 2 - LEARNING IN THE WORKPLACE

5. On your return to work, did you have a post-course discussion with your line manager?

Yes

No

6. Did you discuss and agree a post-course Action Plan with your line manager?

Yes

No

7. a) If you did have a post-course Action Plan how successful have you been in achieving the objectives?

Very Successful

Some Success

Little Success

No Success

b) If you have ticked either of the two right hand boxes above, please explain why.

8. As a result of this training what have you learned that is new and/or what can you now do better?.

9. a) Overall, how effective was this course in terms of your learning and development?

Very Effective

Effective

Partially Effective

Not Effective

b) If you have ticked either of the 2 right hand boxes, please explain why

+

PART 3 - LINE MANAGER'S COMMENTS

10. To what extent, if any, have there been positive changes in the way the jobholder has been doing his/her job since returning from the course?

Great Change	Some	A Little	No Change
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. In general, to what extent has your team/section/ watch benefited from an even more positive contribution from the jobholder since he/she has returned from the course?

Great Benefit	Some	A Little	No Benefit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Please give examples of the way in which new and/or improved knowledge, skills and attitudes have been of benefit to the individual/team/organisation.

13. Any other comments?

14. a) Overall, how effective was this course in terms of the attendee's learning and development?

Very Effective	Effective	Partially Effective	Not Effective
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) If you have ticked either of the 2 right hand boxes, please explain why

Line Manager _____

Date _____



Appendix 4

Questionnaire – Assessment of Learning

This questionnaire is designed to collect data on assessment relating to the learning achieved during short training courses.

Knowledge and Skills

1. What is the **main** purpose of assessing your learning during and after training:-
 - a) to provide evidence of a change in your ability to perform given tasks
 - b) to confirm your competence against a set criteria
 - c) both?

2. **If both**, which is the most important?

3. If the **main purpose** is to improve your ability to undertake given tasks, how can this be shown to have occurred? (Circle the answer that is closest to your view)
 - a) in the Application of Learning Form (Issued after 4 months)
 - b) reflected in the Personal Performance Plan (PPP)
 - c) self assessed
 - d) suggest another method.....
.....

4. If the training was for the purpose of **revalidating your skills**, how do you think the results should be assessed? (Circle the answer that is closest to your view)
 - a) written examination
 - b) continuous assessment
 - c) oral examination
 - d) task based assessment, by an experienced colleague.

Assessment Summative – This is a term used to identify a type of Assessment which places a value (mark/grade/pass or fail) on the learning achieved. It would normally be conducted at the end of the training.

5. Do you think that the summative assessment should state:-

(Circle the answer that is closest to your view)

- a) a pass or fail grade
- b) a statement of 'competent' or 'not yet competent' in accordance with the assessment criteria
- d) another method, if so what?.....

6. What **remedial steps** would be appropriate if a learner failed the assessment?

(Circle the answer that is closest to your view)

- a) retake the training,
- b) report the result to Line Management,
- c) take no action at all
- d) retake the failed part of the assessment

Attitude towards Assessment and Feedback

7. If assessment, in any form, was incorporated into of a training course, would this affect your attitude to the training event? (Circle the answer that is closest to your view)

- a) very concerned
- b) concerned
- c) unconcerned
- d) welcomed

8. If we use continuous assessment, would you prefer:-

(Circle the answer that is closest to your view)

- a) a written test
- b) observations
- c) oral questions
- d) an alternative method. If so, what?.....

9. Do you think feedback, in any form, **enhances your learning**? Please give reasons for your answer.

.....
.....

10. How do you feel about :- (Underline the answer that is closest to your view)

a. assessing your own learning?

Difficult to do Uncomfortable Comfortable Welcome

b. receiving feedback from tutors?

Rather threatening Uncomfortable Comfortable Welcome

c. receiving feedback from your peers ?

Rather threatening Uncomfortable Comfortable Welcome

11. Drawing on your own experience, what do you think is the most effective form of feedback, :- (Circle the answer that is closest to your view)

- a) oral
- b) written
- c) oral with a written record

May, 2007

Appendix. 5

Questionnaire – Course Evaluation

Evaluation

Course Evaluation is to determine if training is ‘fit for purpose’. This Questionnaire is designed to collect data relating to attitudes and options, which in turn will contribute to improved design of future evaluation forms.

The tutor (underline the appropriate comment that is closest to your view)

1. How much importance would you attach to the professional knowledge of the tutor?

None at all Would be useful Important Very important

2. Is it important for the tutor to have a recognised teaching qualification?

None at all Would be useful Important Very important

3. Is it important for the tutor to use a range of instructional techniques?

None at all Would be useful Important Very important

4. Do you think the personality of the tutor has an effect on your learning?

None at all A little Important Very important

5. Do you think that **a task based competence** should be revalidated by attendance at:- (Underline the answer that is closest to your view)

a course proof of actual practice some other method

6. If some other method, please make a suggestion.

.....
.....

7. How would you use **pre-course** reading material:-

(Circle the answer that is closest to your view)

- a. I would read it before the course started
- i. I would catch up during the course
- c. To be honest, I probably would not read it.

8. How important a part do you think that group table top exercises play in your learning? (Underline the answer that is closest to your view)

None at all A little Important Very important

9. Do you find use of role play to be :-

(Underline the answer that is closest to your view)

No benefit Embarrassing Useful

The teaching and learning environment

10. What factors make a successful teaching and learning environment?

.....
.....
.....

11. What factors encourages a 'safe' learning environment where you feel you can make mistakes and learn from them?

.....
.....
.....

Post and Pre course Actions(Underline the answer that is closest to your view)

12 Do you think that a **pre-course** discussion with your Line Manager is:-

Unnecessary Useful Important Vital

13. Do you think that a **post-course** discussion with your Line Manager is:-
(Underline the answer that is closest to your view)

Unnecessary

Useful

Important

Vital

May, 2007

Appendix 6

Research Results Matrix – Assessment Questionnaire

No of Returns 31

No.1	What is the main purpose of assessing your learning during and after training	a) to provide evidence of a change in your ability to perform given tasks	b) to confirm your competence against a set criteria	c) both	
	Score	7	4	20	
No.2.	If both, which is the more important	a)	b)		
	Score	8	12		
No.3	If the main purpose is to improve your ability to undertake tasks, how can this be shown to have occurred	a) in the Application of Learning Form	b) reflected in the Personal Performance Plan	c) self assessed	d) suggest another method
	Score	3	14	9	5
No.4	If the training was for the purpose of revalidating your skills, how do you think the results should be assessed.	a) written examination	b) continuous assessment	c) oral examination	d) task based assessment, by an experienced colleague
	Score	3	12	5	11
No.5	Do you think that summative assessment should state	a) a pass or fail grade	b) a statement of competent or not yet competent, in accordance with the assessment criteria	c) suggest another method	
	Score	8	21	2	
No.6	What remedial steps would be appropriate if a learner failed an assessment	a) retake the training	b) report the result to the Line Manager	c) take no action at all	d) retake the failed part of the assessment
	Score	16	2	NIL	13
No.7	If assessment, in any form, was incorporated, into a training course, would this affect your attitude to the training event	a) very concerned	b) concerned	c) unconcerned	d) welcomed
	Score	1	12	9	9
No.8	If we use continuous	a) a written test	b) observations	c) oral questions	d) suggest another method

	assessment , would you prefer				
	Score	8	8	5	4
No.9	Do you think feedback, in any form enhances your learning, give reasons for your answer			No response	
	Score	26	NIL	5	
No. 10	How do you feel about:-				
a)	Assessing your own learning	Difficult to do	uncomfortable	Comfortable	welcome
	Score	8	3	17	1
b)	Receiving feedback from tutors	Rather threatening	uncomfortable	Comfortable	welcome
	Score	NIL	3	17	13
c)	Receiving feedback from your peers	Rather threatening	uncomfortable	Comfortable	welcome
	Score	NIL	7	17	7
No.11	Drawing on your own experience, what do you think is the most effective form of feedback	a) oral	b) written	c) oral with a written record	
	Score	12	4	15	

Appendix 7

Research Results Matrix – Evaluation Questionnaire

No of Returns 34

No.1	How much importance would attach to the professional knowledge of the tutor.	None at all	Would be useful	Important	Very important
	Score	Nil	2	6	26
No.2	Is it important for the tutor to have a recognised teaching qualification	None at all	Would be useful	Important	Very important
	Score	2	16	13	3
No.3	Is it important for the tutor to use a range of instructional techniques	None at all	Would be useful	Important	Very important
	Score	Nil	5	21	8
No.4	Do you think the personality of the tutor has an effect on your learning.	None at all	a little	Important	Very important
	Score	1	nil	13	20
No.7	Do you think that a task based competence should be revalidated by attendance at:-	A course	Proof of actual practice	Some other method	
	Score	10	23	1	
No.8	If some other method, please make a suggestion				
	Score				
No.9	How would you use pre-course reading	I would read it before the course started	I would catch up during the course	To be honest, I probably would not read it	
	Score	19	9	6	
No.10	How important a part do you think that a group table top exercises play in your learning?	None at all	A little	Important	Very important
	Score	1	7	17	9

No.11	Do you find the use of role play to be:-	No benefit	Embarrassing	Useful	
	Score	3	5	26	
No.12	What factors make a successful teaching and learning environment				
	Score				
No.13	What factors encourage a 'safe' learning environment where you feel you can make mistakes and learn from them.				
	Score				
No.14	Do you think that a pre-course discussion with your Line Manager is:-	Unnecessary	Useful	Important	Vital
	Score	9	18	8	2
No.15	Do you think that a post-course discussion with your Line Manager is:-	Unnecessary	Useful	Important	vital
	Score	5	18	9	2

Appendix 8



COURSE EVALUATION FORM

In order that the training provided by The MCA can be monitored, problems rectified and improvements made, we would be grateful if you would take a few minutes to fill in this form.

Name _____ Strn/Office/Org _____

Course Title _____ Course Date(s) _____

Course Provider _____ Course Venue _____

COURSE EVALUATION

1. Did you have a pre-course discussion with your line manager? **Yes** **No**

If "No", why not?

2. Did you have specific learning objectives before attending the course? **Yes** **No**

If "Yes", what were they?

Were they agreed with your line manager? **Yes** **No**

Were these learning objectives met? **Yes** **No**

3. Did you think the length of this course was:

Too short **About right** **Too long**

4. Which parts of the course did you find the most useful and why?

5. Which parts of the course did you find the least useful and why?

6. As a result of attending the course, what do you think you will do, or do differently, when you return to your workplace?

7. What is your opinion of:	Excellent	Good	Satisfactory	Poor
The course handouts (Quality, relevance, practical value, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The variety of training methods used (Syndicates, exercises, discussions, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name				
The Trainer(s) _____ (Subject knowledge, clarity, empathy, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guest Speaker(s) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Course Admin Support (Joining instructions content, telephone support etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Venue (Facilities, rooms, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Admin Support during Course (Photocopying, dealing with enquiries, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Catering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. If there were guest speakers, what, if any, added value did their contribution bring to the course?

9. Are there any general comments or suggestions you wish to make?

Thank you for taking the time to give us your views and for completing this form.

Click on the button below to E-mail the form to the Training Centre, or, if posting, please return it to:

The MCA Training Centre
Steamer Point, Highcliffe
CHRISTCHURCH
BH23 4JQ

