Factors influencing output due to training: a case study of an international course for trainers of health workers

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor in Philosophy

by

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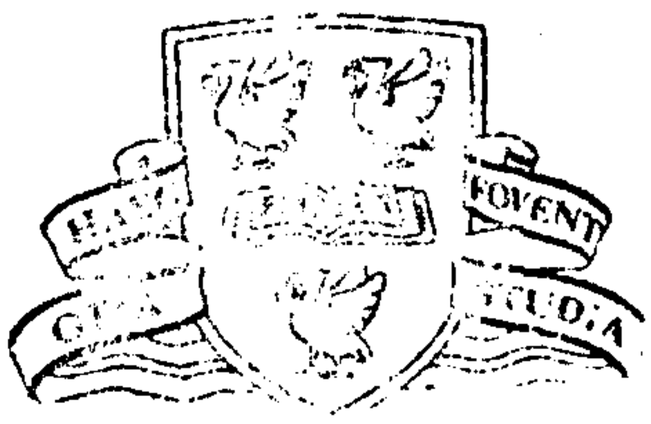
to my wife and family



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AMDG

Glossary/ operational definitions of concepts

bilateral programme	a programme jointly planned and run by a government department of a developing country, and the department concerned with overseas development of a developed country
candidate	a person applying for admission to a training course
entry	all the processes involved in a person getting to attend a particular training course - from first hearing about it, until the actual arrival at the training institution
ex-student	a person who has completed a training course
international course	a course offered for a student body from many different countries
performance system	all the circumstances and factors which together make up the situation within which a person has to perform a given task
story	that part of the history of a person's life that forms the subject of a case study
student	a person undergoing training
the School	the Liverpool School of Tropical Medicine

Abbreviations/ acronyms

NGO	non-governmental organisation
ODA	Overseas Development Administration of the United Kingdom
OSCE/ OSPE	objective structured clinical/ practical examination
PHC	Primary Health Care
TPHC	the 'Teaching Primary Health Care' course, offered yearly between 1979 and 1994 at the Liverpool School of Tropical Medicine, and the subject of this study
UK	United Kingdom
USA	United States of America
WHO	World Health Organisation

Conventions

The qualitative data analysis used in the study requires extensive quotation from, or reference to, the 87 ex-students who were investigated in the course of the study. In order to preserve anonymity the case study of each student was allocated a reference number between 1 and 87. Quotations from, and references to, ex-students and their colleagues are identified by means of the code number of that ex-student's case study, in square brackets - for example [56].

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Chapter 1 Introduction and literature review

1.1 Background to the study

In the 1987-88 academic year about 63,000 overseas students attended courses in the United Kingdom. By the 1997-98 year this had increased to 208,000 (British Council, 1998, p.16). The stated aim of providing this service to so many non-Britons is to 'create opportunity for people worldwide.'

Among the British institutions offering training to overseas students a number may be found with particular expertise and experience in the field of health in developing countries. The Liverpool School of Tropical Medicine, for example, has been responding to reported health needs in the developing world for about a century. It was the logic of response to need that led to the institution, in 1979, of the 'Teaching Primary Health Care' (TPHC) course at the Liverpool School of Tropical Medicine.

1.1.1 The 'Teaching Primary Health Care' course

Rationale for the course

In the course of their work in the health services of developing countries, staff and partners of the School had noted that much training of health workers appeared to be relatively ineffective and inefficient. The reason for this state of affairs was perceived to be that the training paradigm being used was an outdated one, uncritically imported from developing countries. The features of such training are well described by Harden *et al.* (1984) as follows: teacher centred; using information gathering as its main learning strategy; discipline based; institution based; using a single unalterable curriculum; using opportunistic/ apprenticeship style learning opportunities. The alternative is the so-called SPICES model: student centred; problem based; integrated: community based; allowing electives; and systematic.

A further reason for instituting the course was the impetus that the Declaration of Alma-Ata gave to the development of Primary Health Care services in member countries of the World Health Organisation. A feature of this development was the creation of new categories of (mostly auxiliary) health workers, to be trained in large numbers, and the intensification of the training of existing categories (WHO, 1979, pp.26-27). It appeared to the School staff that an intervention was needed, if training in the same relatively ineffective and inefficient paradigm was to be avoided.

It is interesting to note that the need which gave rise to the course was noted and acted upon in a variety of other organisations, some of them in the developing countries themselves. For example, a key feature of a community health worker programme in Tanzania in the early 1980s was a 'training of trainers' course, where trainers learnt training techniques in a new, more interactive and task directed paradigm (Nangawe *et al.*, 1985-86).

The target population

In the flier which the course used for many years as a marketing tool, it was described as catering for teachers who train health care staff (especially in developing countries), as well as those responsible for planning such training programmes. These persons were expected to have a commitment to teaching as a career; to be capable in future of implementing new educational ideas; and to be in a position to influence colleagues in matters related to training. No specific formal qualifications were required from applicants, recognising that these teachers come from very varied backgrounds.

A brief history of the course

The course lasted for three months, without a break, and was conducted at the Liverpool School of Tropical Medicine in the third quarter of every year. About twenty participants were admitted per year. After its 'trial run' in 1979 It became increasingly popular, being substantially over-subscribed for the first decade of its life (1980-1990). By 1992 altogether 279 students from 59 countries in six continents had been trained. After 1990 funded applications started decreasing - possibly because of the perception that adequate 'training of trainers' courses were now being offered locally or regionally, and perhaps also because the interest of funders had shifted to other issues in health care. After the 1994 run the course was discontinued.

The objectives of the TPHC course

In 1980 the course acquired a new leader, who came directly from the educational unit in Dundee which was at that time developing the SPICES model described above. Under his leadership the course assumed a format which remained largely unaltered for the rest of its life, as study of past course records shows. The following objectives were set, for the students to achieve during the course:

1. Explaining the key debates concerning the concept of Primary Health Care.
2. Deriving learning objectives for courses or sessions where the objectives are based on job descriptions and an analysis of available information concerning health care.
3. Planning units of instruction (lessons; units; modules) which will achieve stated objectives.
4. Preparing teaching materials to support planned units of instruction..
5. Using appropriate teaching equipment effectively.
6. Teaching students by using appropriate methods (including teaching knowledge, attitudes, and skills).
7. Designimg, preparing and marking a range of types of assessment suitable for use with trainee health workers.
8. Evaluating aspects of a training programme (e.g. course objectives, teaching methods, learning styles, resources, impact of training).
9. Designing new and revised curricula in cooperation with colleagues.
10. Implementing educational innovations in cooperation with colleagues.

Overall this could be summarised as a commitment to a *logical, job-centred* approach - looking at the job, listing tasks, analysing them, getting objectives from that, planning lessons and the course overall by grouping objectives, teaching and assessing according to domains of learning (Abbatt and McMahon, 1993, p.26). Each objective became the subject of one or more short modules on the course.[1]

Methods of teaching and assessment

Data gathered from official course literature, interviews with past tutors and observation of the teaching itself showed that the following were key features of the way in which the course was taught and assessed:

1. The course was highly participatory, building on students' experiences as teachers.
2. The course was based around a simulation, the 'Fictitia exercise'.
3. A wide variety of teaching methods was used to illustrate the range of techniques available. In this way the methods could be experienced rather than just described.
4. There was a strong emphasis on developing practical skills (teaching, assessing, preparing curricula and visual aids etc.). As a result a lot of time was spent working on tasks, in groups or individually.
5. Students had to undertake one major, individual project electively - they were required to bring ideas, policies and materials from their own situations on which to base this.
6. Visits were conducted to centres of excellence in health worker training.
7. A high level of tutorial and pastoral support was provided for students.
8. A wide variety of criterion referenced assessment methods was used, mainly formatively - to acquaint students with these methods, but primarily to ensure that students had mastered each learning objective. All work was assessed and marked.
9. Rigorous standards were set. When students failed to achieve these they were given opportunity to be re-assessed, as long as eventual mastery was achieved. At a final conclave at the end of the course tutors decided which students had achieved the expected standard, and which not.

The course therefore set itself to be an example of good teaching practice - for example, students routinely received copies of session plans, which students were encouraged to critique. Overall the teachers followed a strongly learner centred approach - the aim being to equip each individual student with knowledge and skills, and not simply to expose a group of learners to a traditionally sanctioned curriculum (Abbatt and McMahon, 1993, p.26).

The TPHC course and the SPICES model

The course exemplified the SPICES paradigm in the following ways:

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[1] The learning objectives are given in detail in Table 3.9.

Table 1.1 The TPHCcourse as an example of the SPICES model

	content	method
Student centred	The rationale for a student centred approach analysed and discussed with students.	Highly student centred: participatory, much tutor support, formative assessment of learning.
Problem based	A strong emphasis on 'training for the job' - deriving curricula from the analysis of a job, which in turn should be derived from the needs of a particular situation.	Not problem based in the classical sense (i.e. students deriving their own learning objectives by analysing problems) - rather problem oriented (the 'Fictitia exercise', the 'individual project').
Integrated	A strong emphasis on identifying and teaching the knowledge, attitudes and skills needed to perform particular tasks.	Modules structured in a logical sequence; learning integrated in micro-teaching; an 'evaluation project'; the 'individual project'.
Community based	Again, an emphasis throughout on developing curricula and teaching in real community situations; also a strong Primary Health Care focus.	Simulations of situations in developing countries used throughout (an early effort to use primary schools in Liverpool for practice proved unsatisfactory).
Electives	An emphasis that opportunities have to be arranged for health workers to learn every task that they might need to perform.	One major elective exercise - the 'individual project' which was tailored to individual students' situations (the visits were not strictly electives).
Systematic	Emphasising the logical process: job → task analysis → learning objectives → teaching to achieve each objective → assessing each objective.	Highly systematic - learning objectives individually identified, learning experiences arranged for them, each objective assessed.

The fact that the course took place in Liverpool, rather than in a developing country, was clearly a limiting factor - for example, practicals invariably had to be simulated, in stead of being conducted in community settings. However it is clear form the analysis above that the course strongly exemplified the SPICES model, both in what it taught about education/ training, and in the way it was conducted. Although it was not an objective of this study to assess specifically the educational quality of the TPHC course, the analysis shows that it was good - good enough to empower students to achieve an output upon their return to their work situation.

1.1.2 The wider implications

The *management* implications of such 'international' training need to be considered. Training cannot logically be conducted in isolation from other aspects of human resource development. Martineau and Martínez (1996, pp.25-35) point out that many countries are busy reforming their health services, according to a variety of models. In all of these initiatives human resource aspects are of critical importance. The reforms are all obliged to attend to the way costly human resources are deployed, to achieve better distribution, improved or adapted skills, new working practices. It is the health service staff members themselves who have to bring about the necessary changes, and who have to be willing and able to do so. Four key issues need to be considered in the process:

- Reducing costs, and increasing efficiency.
- Improving staff performance.
- Improving equity in the distribution of services.
- Development of human resource policy and planning capacity.

Training in the classical sense is only contained in the second, but clearly affects, and is affected by, all four. All four strands therefore need to be considered together, if the goal of getting 'the right people with the right skills and motivation in the right place at the right time' (Martineau and Martínez, 1997, p.2) is to be achieved.

The *financial* implications of training 208,000 overseas students per year are considerable - a simple calculation will show that yearly expenditure on fees alone runs into the hundreds of millions of pounds. There is a clear need for ensuring that such expenditure leads to improved performance (Hepworth, 1988): clarifying the nature of the performance (and separating political objectives from institutional ones in the process), and giving more thought on how to add value to inputs, and how to measure that added value. The effectiveness of training is also specifically mentioned as a research topic in a World Health Organisation document dealing with human resource management. Specifically targeted research is an important source of information for such management: to draw attention to problems, to elucidate them, to contribute to rational decision making, to evaluate decisions already made (WHO, 1990, pp.32-35).

1.1.3 Evaluating the TPHC course

The TPHC course organisers were aware that their work represented a large investment of time and money. One evaluation by means of a postal questionnaire had been carried out in 1988, which indicated that the course was proving useful to past students. However it was decided that a more thorough investigation of the effect of the course should be carried out. The aim of those who commissioned the evaluation of the TPHC course was threefold:

- The first reason was one of utility - gaining a better understanding of those aspects of the course that would make it possible to manage it better. This meant investigating factors which influenced how well the ex-students were able to implement what they had learnt - with especial attention to the 'entry' process, over which it was possible to exert some control. A corollary of this requirement was that it was necessary first to determine the amount of output that resulted in

each case, as a result of the ex-student having attended the course - so that factors associated with small or large outputs could be identified.

- Secondly it was also required of the researcher to contribute to the academic expertise of the unit which commissioned the study - both in terms of a greater understanding of the phenomenon of development related courses run in developed countries for students from developing ones, and in helping to develop evaluation methodology and techniques.
- Thirdly it was hoped that an in-depth understanding of one 'international course' would allow the lessons learnt to be applied to others, thus improving their performance and efficiency.

The present study was the result of this initiative. The study formed part of a work programme called 'Policies and practices of Primary Health Care', which was funded by the former Overseas Development Administration of the Government of the United Kingdom and implemented by a team within the Liverpool School of Tropical Medicine. The study took place over a period of six years, as follows:

- *August 1991 to December 1992*
  - * Preparatory reading relating to the proposed study; intensive study of course documentation and materials in Liverpool; teaching on the 1992 course.
  - * Information about the TPHC course was gathered by interviews with three course tutors.
- *January 1993 to May 1994*
  - * Visits to 87 ex-students at their workplaces, by means of three extended overseas visits: to West Africa (one month); to the rest of sub-Saharan Africa (three months); and to South and East Asia (two months).
  - * Each visit was preceded by detailed planning (Appendix 2).
- *June 1994 to June 1995; December 1998 to May 1999*
  - * Analysis of the data obtained.

1.2 Aim and objectives of the study

1.2.1 Aim

To evaluate a skills based intensive short course in education methods for health workers working in developing countries, in relation to its impact in the workplace, and factors influencing impact.

1.2.2 Objectives

In relation to the same course:

- To assess the actual output resulting from the exposure of participants to the course, over varying periods of time - this output being defined in terms of its quantity and quality.
- To describe the process whereby participants enter into the course, and analyse both the factors affecting such 'entry', and the relationship between 'entry' and output.
- To explore factors that may influence participants' output, in relation to work circumstances, the nature of the job, personal factors, and other environmental effects.
- To develop a suitable methodology to achieve these objectives.

The first step in the research process was a literature search in areas related to these objectives. It should be noted at this juncture that the nature of the research is comprehensive rather than specific, wide rather than deep. The question under consideration inevitably touches on many disciplines: education, health, management, production; and it is necessary in this instance to gain an understanding of the overall picture, rather than concentrating on one particular aspect. For this reason the literature search focused on basic texts in the main disciplines, and then on more specific examples dealing with training and its evaluation, preferably health and education related, preferably in or for developing countries.

1.3 The nature of the training

The study concerns itself with the TPHC course, which is the 'treatment' that the ex-students underwent. As such it is a 'given'. There is good evidence that it remained more or less constant, in both content and style of presentation, throughout the 14 years under consideration. Detailed discussions were held with two tutors who had been teaching on the course for many years (one from 1980 to 1988, the other from 1984 to 1992). From the discussion it appeared that only minor changes had taken place through the years:

- The early habit of doing a situation analysis in a Liverpool institution and then planning training for that changed to a classroom simulation set in an imaginary country.
- The early teaching practice in Liverpool schools was replaced by more micro-teaching.
- Two or three of the earlier groups attended workshops on being agents-of-change.
- 'Course planning' and 'Evaluation' were added as modules in later years, in response to recommendations from the students' course evaluation.

It was decided to exclude the 1979 cohort from the evaluation. Little information was available about its exact nature (the course was known to have changed substantially in 1980); and no members of its cohort could be traced during the follow-up visits.

The rationale and value system underlying the TPHC course are described in section 1.1 above. An important consideration was the range of health workers who attended the TPHC course: from nurse auxiliaries in charge of village health worker training programmes, to professors of medicine teaching at universities - sometimes in the same class. As was mentioned before, the course therefore consciously set itself up as an example of student-centredness. This was achieved by keeping student numbers low; by a very interactive style of teaching; and by a system of individual tutors. Ex-students often remarked spontaneously on this aspect, which for many was a complete novelty - for example: 'The attitude of the teachers with students - it is not in [country] at all - teacher superior, student inferior. Very much close to student during course. Student can open freely, we can know who's in difficulty, who's doing well. I don't want to sit here now, I want to stand with students, put my hands on them. I can do it now without hesitation. I feel now they're *my* students, not finish topic and go away. We enjoy a lot in the field: I explain Liverpool experience to students, I forget that teacher and student is something different. This is the most important thing for teaching really. The teachers had *so* positive attitude to us' [67].

Although it is a 'given' it is necessary to consider what actually happened to the ex-students while they were in Liverpool, and how this may have influenced their ability to apply what they had learnt upon their return.

1.3.1 'Conversion' - the change that took place in the students

Of critical importance is the fact that students were expected to leave the course having assimilated the new paradigm described above, together with the techniques to apply it

in their work situation. Those who have been working within different paradigms are implicitly expected to change; those who already share it, in part or fully, are expected to be confirmed in their adherence to it. Friedman and Lipshitz (1992) discuss the need for 'reconceptualisation' - for students consciously to change and reorganise their underlying cognitive structures. For each major concept the student has to change the 'competence value' ('this will help me to work well') and 'evaluation value' ('this is right/ wrong'). These changes are crucial for future production - both personally and in a system (Argyris, 1962: 219-257). Somekh (1992) stresses the need for students to engage cognitively and emotionally with an innovation. If not, they fail to find a place for it within their existing theories and beliefs, and therefore feel little enthusiasm for it. or for the need to use it.

The starting point for any consideration of the effect of the TPHC course is therefore the degree to which 'reconceptualisation' took place within each student. In cases where it did not, there is unlikely to have been any subsequent effect. This issue was discussed in depth with each student and her/ his superiors, and is taken into account in the analysis of output in Chapter 3.

'Reconceptualisation' depends on personal factors (the theories and character traits the students arrived with); on the course itself (its content, the way it was run); and on practical issues like good accommodation and sufficient finances. The process is clearly an example of Schein's (1969, pp.98-107) steps of 'unfreezing' and 'moving'. The forces which stimulate or oppose this process are discussed below.

1.3.2 Course content

'Training of trainers' should be based on detailed needs assessment, as was the case in an example from Malaysia (Elton and Manwaring, 1981). If training needs assessment is neglected relevance of course content suffers. In an example from a course for health managers in the USA, Zalkind and Malec (1988) found that one third of alumni felt that their course did not adequately prepare them for the needs of their subsequent jobs - they felt that the curriculum needed to be more relevant to the needs of the 'real world'. The TPHC course content was based on an informal needs assessment made in the course of work done in many countries in the developing world, which process continued through all the years that the course was run.

1.3.3 The course process

In a study of case studies of higher educational institutions in developing countries Van den Bor and Shute (1991) report that it is very common for instructional quality to suffer because of poor tutor technique. Given the substantial teaching loads that most academic staff members have, universities should be supporting their own staff (and those of neighbouring institutions) through short course training - but this very seldom happens. In the TPHC course the teaching load was reasonable - at least three full-time tutors for a class of about 20 students - and the teaching expertise probably high, since 'teaching skills' was the subject of the course, and much stress was laid on students learning from the examples of the tutors.

In a study of management training in developing countries Schmidt (1991) found that generic, classroom oriented management training (an attempt at one-way transfer of generic skills to individuals) has a very slow impact on actual delivery of field services. Traditional classroom training operates on the entirely unproven assumption that improved knowledge leads to behavioural change and better organisational performance. In addition, such students are separated from colleagues and their work situation - artificial, hypothetical cases are used for training because students lack a common institutional base. The 'fit' between the training and the actual field situation is poor; it is hard for tutors to improve training materials on the basis of experience. The ideal therefore is 'action training', based on students' real problems; this has been shown to be far more effective in achieving changed organisations and structures. The TPHC course is closest to the first model (generic and classroom oriented), although much time is spent on learning skills practically.

Pedler (1974) similarly describes four 'levels of learning' in management education:

Table 1.2 Four levels of learning in management education

1 memory	recognising, identifying, describing the purpose of a tool
2 understanding	understand how and why the tool works and what to do to use it
3 application	use the tool in a limited number of situations, but someone else selects the appropriate tool
4 transfer	select, use and modify tools from a full repertoire in a wide range of situations; develop new tools

Learning and successful subsequent application are enhanced if more deeper level learning takes place. Scrutiny of the TPHC course plan and records shows that the course was mostly geared to level 3 and level 4 learning. Language may constitute a problem in this respect, to varying degrees. Kinnell (1990, pp.21-28) found that in some cases it is paramount and constitutes a severe impediment to learning; students also have problems writing in technical, conceptual English.

Chapko *et al.* (1984) also describe how relevance can be enhanced by the participation of the groups benefiting from the training in the training itself, and by making them apply what they learn as they go, by setting themselves goals for organisational change. In the case of the TPHC course tutors welcomed student input. They also insisted on regular written reflection (which was assessed), where students applied what was being learnt to their home situation. Each student also had to compile an 'individual project', related to her/ his work at home, using what s/he was learning on the course.

The needs analysis conducted during Elton and Manwaring's (1981) project also showed the need to promote individualised learning strongly, through student-centred, flexible learning opportunities. The TPHC course content was fixed, in terms of subject matter to be covered; however its system of personal tutoring, and the 'individual

project', was probably flexible enough to enable personal learning needs to be identified and met.

In the course reported by Zalkind and Malec (1988) a lack of hands-on experience during training was a common complaint: for skills like microcomputer applications, report writing, presentations etc. The TPHC course had a very strong ethos of learning skills (e.g. teaching) through doing them practically, with feedback - for example doing micro-teaching exercises.

1.3.4 Practical issues

Student welfare issues - practical ones like accommodation and care during illness, and personal problems - may affect learning (Abbatt and McMahon, 1993, p.21). Cultural adaptation is a need that is frequently not attended to (Kinnell, 1990, pp.21-28). Students' financial situation also may affect their ability to benefit from the course, as was illustrated in a study by Fadem *et al.* (1995) of an academically homogeneous group. Students with parents with low income did significantly worse, with social explanations being the most likely - for example, poorer students need outside employment to supplement their funds; and female and minority students have more social relationships outside medical school than male, majority ones. The vast majority of students on the TPHC course were funded by experienced donors, so that subsistence allowances were adequate. Personal tutor support and counselling was usually able to deal with personal problems.

1.3.5 The nature of students and teachers

In Table 1.3 Harris and Bell (1986, pp.118-126) describe different roles that teachers and learners adopt themselves, and expect the other party to adopt.

Table 1.3 Teacher and learner roles (Harris and Bell, 1986)

teacher roles	learner roles
'performer' the dominant traditional teacher; takes little account of learner differences; wants 'receiver' learners	*'receiver'* mostly uses 'memorising' as a strategy
'composer' puts together range of learning experiences; includes learners' needs; wants more independent learners	*'detective'* 'decodes' material, makes sense out of it him/ herself
'conductor' helps learners make own decisions in all areas of learning; needs to be a multi-disciplinary all-rounder	*'generator'* learns by 'creating' own learning opportunities
'critic' promotes constant evaluation of the whole teaching/ learning process (him/ herself included)	*'facilitator'* learns by 'loving', preferring to learn in a group

They point out how problems can arise in situations where these expectations clash. In the TPHC course situation occasions certainly arose where learners arrived in 'learning' mode, and expecting 'performer' tutors - whereas tutors were in 'composer' or even 'conductor' mode, and made it clear that they preferred anything but 'receiver' learners. In a study of overseas students in the United Kingdom Channell (1990, pp.63-81) found that these students experience the conventions of British education to be very different: self-reliance, self-study, minimal control, challenges. The students come from systems which are more controlled and directed, and lack skills of analysis. Elsey (1990, pp.46-62) found that very few of the same students had had previous experience of discussion based learning.

From their experience Cassels and Shoo (1990, pp.1-12) conclude that, if there is a good match between the skills, experiences, abilities and orientation of those teaching the course, and the needs of those participating, it is reasonable to predict a positive outcome, despite the variation introduced by individual circumstances. Conversely, a course run by individuals with working experience, or professional/ ideological orientation which is radically different from that of participants, or which offers skills of limited relevance to the work of participants, is less likely to result in positive outcomes, even though individuals may benefit from just being out of their normal environment. Regarding the TPHC course there were sometimes considerable differences, in cases where students espoused a traditional, hierarchical, lecture and subject based style of learning, whereas tutors were more egalitarian and competency based in their thinking. Tonks and Wan (1991) make the same point in their study of different types of learning outcomes (intended, apparent, actual), following a fairly unstructured learning experience. They concluded that aberrations in learning could be explained by the 'hidden curriculum' - particular perspectives held by teachers or students, which may differ from each other. The ethos of 'wanting to please the teacher' is a confounding factor when tutors try to determine what was actually, and not apparently, learnt.

All students on the TPHC course are experienced teachers of health workers. Mature learners on courses of this nature have, to varying degrees, two needs: the need for qualification (which implies attention to their security, enabling them to succeed) and a love of learning (which implies extending them, by offering them a wide scope of material) (Elton, 1987, pp.141-143). The student centred approach of the TPHC course was suited to meeting both those needs.

In summary

Several factors were identified that could have blocked 'reconceptualisation'. These appear to have been fairly adequately taken into consideration in the planning and execution of the TPHC course.

1.4 Literature study: the results of training

In general, the principal reason for attempting to evaluate training is to determine its *effectiveness*: whether its specific objectives have been attained; or whether the problem that it was addressing has been reduced, or the situation it is trying to deal with is improved. In addition to effectiveness the following also need attention (WHO, 1981a. pp.29-30):

- *Relevance* - whether an activity or programme is relevant to overall policy goals and important problems.
- *Adequacy* - whether the programme is sufficient to deal with the situation, in terms of policy and programme formulation.
- *Efficiency* - whether the process has been run in the best possible way technically and financially.
- *Impact* - whether there have been improvements in health and quality of life.

The TPHC course was intended to influence already experienced teachers/ trainers. adding a leavening of new knowledge, skills and attitudes to the teaching the ex-student would do in his/ her subsequent life. Loucks-Horsley *et al.* (1987, pp.156-160) refer to this leavening as 'changes' in participants in training programmes: in their knowledge base; their skill level and use, their attitudes, their opinions, their feelings (e.g. increase in feelings of self-efficacy). The aim of an evaluation should be to determine the extent to which behaviour or events can reasonably be said to have been influenced by some aspect of the training (Katz, 1978, pp.22-24). In the present study it was decided to focus on the *relevance* and *adequacy* of the course (as the basis for understanding its effect), and not to consider *efficiency* or *health impact*, which of their nature would have to be the subject of an additional inquiry.

In order to arrive at an understanding of this leavening and subsequent output, this section considers three issues:

- The potential that training imparts, for achieving output.
- The output due to training.
- The measurement of such potential and output.

1.4.1 The potential - 'capability'

In the literature the potential, the ability of a person to achieve output, is recognised at different levels. However there appears to be no standard terminology - in fact the same term may be used with different meanings. A summary of this conflicting terminology is given in Table 1.4. An analysis of the different terms and meanings shows that three levels of this potential are broadly recognised:

Level 1 - head knowledge and mechanical skill

Girot (1993) defines 'competence as performance' - the mere ability to perform a given task; Novak (1988) describes a 'purely mechanical ability'. For Hamilton (1994) competencies are 'actions guided by algorithms in situations of limited complexity', and a person who is merely 'competent' is an 'operative'. For Schön (1983, p.19)

competence is simply the application of established techniques to recurrent events. Pedler (1974) defines four levels of mastery of learning course material. including all the domains of learning; the lowest, 'memory' (recognising, identifying. describing the purpose of a tool), corresponds to the level under consideration.

Level 2 - the beginnings of judgement

Eraut and Cole (1993) describe 'capability' as an entity comprising underpinning knowledge and understanding of concepts, theories, facts and procedures; the personal skills and qualities required for a professional approach to the conduct of one's work; and the cognitive processes which constitute professional thinking. Novak (1988) calls this level 'mechanical ability plus social perceptiveness'; it corresponds to two of Pedler's (1974) levels - 'understanding' (understanding how and why the tool works and what to do to use it) and application (using the tool in a limited number of situations, with someone else selecting the appropriate tool).

Level 3 - 'knowledge-in-action'

Schön (1983, pp.49-50) uses the concept of 'knowledge-in-action' to describe this level. There is a level of knowledge which only reveals itself in action - as distinct from book-learnt knowledge. So professional judgement in the intricate situations of ordinary work arises not from scientific analysis but from this intuitive ability to consider and make decisions in unique situations as and when they present. It is this which constitutes professional practice, and which needs to develop in new practitioners. Polanyi (1969. pp.140-142) speaks of 'tacit knowledge', which contains an actual knowledge that is indeterminate in the sense that it can clearly be seen operating, but its content cannot be explicitly stated. Hamilton (1994) calls the psychomotor equivalent 'skills', defined as 'actions springing from prudent choices among moral alternatives'; a person who is 'skilled' is a 'practitioner'. Schön (1983, p.19) defines the same concept as 'the use of theory and technique to solve concrete problems'. The 'Education for capability' movement in the United Kingdom. (which is concerned with the development of the whole person, rather than 'narrow' vocational development) suggests that effective use of skills and knowledge requires the addition of a range of less easily quantifiable attributes - self-esteem, values, integrity, personal will, commitment. The capable person is able to take reasonable risks, show courage, use intuition, be creative, learn from experience (Hevey, 1993, pp.14-15). This corresponds to Pedler's (1974) 'transfer' level: the ability to select, use and modify tools from a full repertoire in a wide range of situations, and to develop new tools.

A crucial emphasis at this level is the ability to function well in the work situation. For Eraut and Cole (1993) 'performance' is the ability to transfer 'capability' into work situations. 'Competence in the health field' means how health workers perform in real life - how they apply knowledge and skills (WHO, 1981b, p.3). Girot (1993) defines 'competence as a psychological construct', where there is integration of cognitive, psychomotor and affective skills while at work. It is therefore at this level that the potential for output starts merging into the output itself.

Table 1.4 Concepts related to the potential for output

concept⇒ author⇓	COMPETENCE/ COMPETENCY	SKILL	CAPABILITY	PERFORMANCE	KNOWLEDGE-IN-ACTION
WHO (1981b, pp.1-7)	the ability to apply knowledge and skills in real-life situations	an ability learnt, not yet applied in practice			
Hamilton (1994) Schön (1983, pp.19-50)	actions guided by algorithms in simple situations or 'technical rationality', performed by 'operatives'	actions springing from prudent choices among moral alternatives, performed by 'practitioners'			considering and solving problems in unique situations
Chambers and Glassman (1997)	five stages of competence: 1. novice 2. beginner 3. competent (ready for independent practice) 4. proficient (technique oriented professional) 5. expert (person-centred professional)				
Hevey (1993, pp.14-15)	'the ingredients' - combinations of knowledge and skills		'the pudding' - competencies plus higher level attributes (integrity, willpower, commitment, values, self-esteem etc.)		
Eraut and Cole (1993)			knowledge/ understanding + personal skills/ qualities + 'professional thinking'	the ability to transfer capability into real work situations	
Girot (1993)	1. 'competence-as-performance' 2. 'competence-as- psychological construct': integrating knowledge, skills, attitudes at work				

1.4.2 The output - 'effect'

Raven (1981, pp.98-126) connects 'potential' and 'output' by his observation that initiative only appears if elicited by valued goals. Abilities and values together shape behaviour, and cannot be separated. If the 'reconceptualisation' that took place during the TPHC course did not add value to the new techniques learnt, and if colleagues or superiors back home did not share the same values, output could be expected to be minimal. Other environmental factors have a similar mediating effect, which is discussed in Section 1.6 below.

'Difference' and 'judgement' are key concepts. Patton (1982) uses the term 'impact', which is defined as the *difference* the intervention has made - which is amenable to measurement since it is an empirical fact. He also uses the term 'improvement' to define a situation where a difference has been noted, but has also been *judged* to be better than the previous one. A WHO (1981a, p.41) guideline defines 'effectiveness' as the attainment of objectives, together with the *reduction* of problems (the difference) and *improvement* of situations (the judgement).

Once again the terminology used to describe the results of training is not standardised, with the same term being given different qualities, and different terms being used for the same quality. A summary of terminologies being used is given in Table 1.5. An analysis of the different terms and meanings shows again that four levels of 'output' are broadly recognised.

Level 1 - achievement of immediate, limited objectives of training

To this level belongs the acquisition of knowledge and skills by trainees, as proved by assessment - how much each student knows, or can do, by the end of training (Abbatt and McMahon, 1993, p.87). This is equivalent to Phillips's (1983, p.36)'Learning' level of assessment.

Level 2 - changes in the work performance of trainees

The emphasis here is on the trainees' performance of their particular task in the work situation, rather than on what that performance achieves. Phillips (1983, p.36) talks about 'changes in work behaviour'.

Level 3 - changes in the immediate system

Katz (1978, pp.22-24) defines 'effect' as any behaviour or event which reasonably can be said to have been influenced by some aspect of the training. Phillips's (1983, p.36) 'Behaviour' level concerns improvements in the organisation resulting from training. There are several groups of effects here:

- Loucks-Horsley *et al.* (1987, pp.156-160) include in the notion of 'outcome' (of professional development programmes for teachers) both changes in the students under instruction, and changes in organisational capacity.

- Gale and Grant (1992, pp.10-17) also include under 'outcomes' issues such as educational attainments, career progression, and satisfied users.
- Outstanding students sometimes lead repeat training events (Schmidt 1991).
- New leaders emerge from improvement activities. These persons gain new perspectives and therefore assume leadership in training others. for example (Loucks-Horsley *et al.*, 1987, p.101).
- Negative impacts, such as the possibility that those who do not participate might feel threatened or discomforted (Loucks-Horsley *et al.*, 1987, pp.159-160).

Some of these consequences are clearly unintended. Since social systems are large and highly interrelated, it follows that when change is applied to one part, reaction spreads through the whole system, leading to change in places where it was not intended. These unintended changes are irrational, and hence more likely to be harmful. This may easily occur in educational innovations (Somekh 1992). Junior team members tend to take to them more readily, with senior members feeling left out and perhaps resisting. This greatly increases the unintended outcomes which generally result from any educational innovation.

It is important to note that 'output' as defined for the purposes of this study (the sum of altered teaching practice over a period of time) is nowhere described. The definitions above are 'snapshot' definitions.

Level 4 - general societal changes

Katz (1978, pp.22-24) defines 'impact' as the more general results of the programme (as distinct from the more specific effects), which are more varied and often difficult to detect. The most critical (and also most difficult) are changes in the health services, and (even more fundamentally) in the very health of the population. A WHO (1981a, p.43) guideline gives the same meaning: even if objectives are being attained, there can only be said to have been an 'impact' if there has been an improvement in overall health and quality of life.

These improvements can be on a small scale. Lorig *et al.* (1996, p.12), dealing with a patient education programme in the United States, include three aspects in 'outcome':

- Specific behaviours - the activities that people were taught to perform (Level 2).
- Health status (physical and mental signs and symptoms) and health care utilisation (Level 4).

Finally, this study looks at individual effectiveness, within a multitude of organisational settings. Bramley (1991, pp.61-77) makes the point that changes in effectiveness may also be evaluated at the level of teams and whole organisations - simply different arrangements for evaluating change in individual action within particular environments.

Table 1.5 Concepts related to 'output' after training

concept ➡ / authors ⬇	EFFECT	IMPACT	OUTPUT	OUTCOME	BEHAVIOUR	RESULTS
Katz (1978, pp.22-24)	behaviour or event influenced by some aspect of the training	the more general results of the programme - critically, better health services and health				
Gale and Grant (1992, pp.10-17)			the use of these training activities	intended results of the training activities		
WHO (1981a, pp.41-43)	objectives attained, problems reduced, situation improved	improvement in health and quality of life				
Phillips (1983, p.36)					changes in work behaviour	improvements in the organisation
Steyn *et al.* (1991, pp.12-14)		the difference in health-related knowledge and practice before and after the intervention				

1.4.3 Methods for determining output

Just as capability (the potential) informs effect (the output), capability is usually determined by observing effect. The measurement of the two has much in common. The present study is concerned with effect - the application of capability in practical teaching situations, over a period of time. It is therefore concerned with determining 'Level 2' (and also some 'Level 3') output, and therefore also with determining 'Level 3' potential required to produce those levels of output.

1.4.3.1 Assessing 'Level 3 potential'

Eraut and Cole (1993), in a study of how eleven professions in the United Kingdom assess the competence of their practitioners, found that the professions use the following techniques:

1. *Performance evidence*, which is collected using the methods indicated in Table 1.6.
2. *Capability evidence*, which is not derived directly from normal performance-on-the-job, but can be. It is collected by combinations of the methods in the table, particularly specified according to the needs and nature of the profession:
   - The *range of competencies* assessed is extended by means of simulations, to supplement performance evidence.
   - The *quality of cognitive processes* is assessed by other means (e.g. interview), since they cannot be observed.

   It is assumed then that the ability to transfer these competencies was adequately assessed in the 'performance evidence'.
3. *Standards* (statements defining competence) are designed, against which judgements have to be made on the basis of the evidence. They indicate what qualified people in a profession should be competent to do, and by what criteria their competence should be judged.

Chambers and Glassman (1997) use a very similar system (termed 'authentic evaluation') for assessing competence in dentistry students. The basis of this method is observation of performance in contexts that resemble those that will be encountered following the educational programme. The tutors lose control over the precise context of the assessment, but gain the ability to see how trainees function in the 'real world', as well as the ability to start measuring trainees' 'values' - their development towards professionalism. The methods they use are very similar to those reported by Eraut and Cole (1993) above, and are compared with them in Table 1.6.

Table 1.6 Methods used in the assessment of higher levels of potential

Eraut and Cole (1993)	Chambers and Glassman (1997)
direct observation of 'real' practice (together with informal questioning of candidate, colleagues, clients)	ratings - summary judgements by qualified individuals, after observation say for a whole term
simulated practice - a second best option	test cases - unaided performances of tasks, under partially controlled circumstances; combined with questioning
witness reports of work done	
scrutiny of naturally occurring products of work (needing an understanding of the context, and supplemented with questioning)	exemplary products - tangible records of a student's work that individuals who were not present at the time can use as evidence to infer ability
scrutiny of logbooks and other 'portfolio evidence'; reflective reports	portfolio evaluation - tutors identify competencies, define them, set standards for them; students present evidence for competence, and accept responsibility for being certified competent
the process of certification contains standards (statements defining competence) against which judgements have to be made	tutors set standards for the competencies

These two cases describe how professionals are approaching the issues of *what* should be assessed, and *by whom*, and *how*.

What should be assessed?

As is to be expected for Level 3, there is concern with trainees' ability to perform in real life situations. From her experience with assessing competence in nurses in the United Kingdom Girot (1993) distinguishes between:

- assessing the ability to perform specific tasks successfully (i.e. 'competence as performance' - lower level)
- assessing intuitive judgements in the complexity of the real life situation (i.e. 'competence as a psychological construct' - higher level).

In a similar situation in the United States Benner and Tanner (1987) describe assessing both the analytic reasoning and the intuitive knowledge which work together in professionals. The pattern recognition which underpins higher levels of performance requires aesthetic capacity as well as complex skills, and both need to be assessed.

Who should assess?

Girot (1993) proposes that valid assessment of expert performance can best be made by an expert working (at least in part) intuitively. 'Knowledge-in-action' can really only be judged by 'expert opinion' - an experienced professional in the same field (Schön, 1983, pp.79-93).
These are illustrations of Aquinas's principle of adequation, which states that the method of knowing must be suited to the reality that is being observed, to produce truth - it is not possible to gain valid knowledge of a higher order phenomenon by means of instruments suited to measuring lower order phenomena (Kretzman and Stump, 1993, p.163). To attempt to do so would be an example of the 'naturalistic fallacy' (Norris, 1990, p.43). The objects of social science inquiry are different in kind from those of the physical sciences, and merit different methods and procedures.

How should they assess?

Benner (1992) however warns of the danger that strict competency based testing will reduce the definition of practice to the capabilities of the measurement tools. As people gain experience, their actions become 'much more situationally determined, and therefore much less formalizable'. The same point is made by Hepworth (1989), in relation to the need for 'expert opinion' in making the assessment of competence. This involves making judgements about an individual's ability in an essentially unique situation. The assessor has to make numerous professional judgements (judgements that only a person with thorough experience of good practice in that field can make) - such judgements being based 'on the complex interplay of a number of factors'. Less structured activities of their nature have to be more intuitively assessed, while the more structured an activity is, the more it is amenable to scientific analysis (Dowie and Elstein, 1988, pp.5-6).

The need to include judgements of intuitive practice has particular implications for the assessors (Chambers and Glassman, 1997). Their judgement becomes crucial, since 'objectivity' becomes unrealistic in real world situations which cannot be standardised. Such judgement tends to become dichotomous (safe-pass / unsafe-fail) rather than scores/ averages - the 'shades of grey' are in the evaluator's mind. In a sense this approach is therefore in opposition to 'outcomes assessment' - the assessors are looking for an end product which is 'skilled', in Hamilton's (1994) sense of the word. Any scoring is a matter of individual judgement on the part of the assessor, and is inevitably done normatively: 'an acceptable standard' is the benchmark (Novak, 1988).

Written standards and criteria are widely used in these judgements, covering the range of skills or competencies needed for professional performance in the field (WHO, 1981b, p.3). The competencies so listed can include wider personal ones (Broadfoot and Squirrell, 1992). The observations should be done over a period of time (Chambers and Glassman, 1997), and if possible by several observers (WHO, 1981b, p.7). There is a need to itemise the qualities in assessing competence, listing them as behaviours and then scoring them (Novak 1988). Broadfoot and Squirrell (1992) have developed a model of personal competence for young people, in which they describe 'areas' of

competence, each of which again is defined in terms of criteria. This model is used both for teaching and assessing.

1.4.3.2 Assessing 'Level 2 output'

Methods used in this situation are based on Patton's (1982) concept of impact as the difference the intervention has made - amenable to measurement since it is an empirical fact. Stake (1986, p.26) reports the use of Paul Schwarz's 'incremental ethic' in assessing the effect of training - 'the diligent search for small proximate movement towards announced distant goals'. Logically the effect being sought is the product of capacity and opportunities utilised, and will therefore be determined by:

- Identifying the opportunities for applying capacity.
- Determining how well capacity was used in each case.

This process is exemplified by two studies. In an Indonesian study of the effect of village health worker training (Reis *et al.*, 1990-91), trained observers observed village health worker behaviour during village health post clinic days ('observation'). Data about effect and motivation were collected during interviews with village health workers and their local authority supervisors ('witness evidence'). The effect of a community health worker training programme in South Africa, conducted by Steyn *et al.* (1991, pp.12-14), was evaluated by looking at knowledge and practices in the population served by the community health workers ('scrutiny of products of work'). The knowledge and practices were extracted from the workers' job description, from which their training objectives had been derived ('itemising qualities'). A case control design was used, visiting randomly selected homesteads in matched pairs of areas with/ without trained workers.

Phillips (1983, pp.131-157) advocates the following methods for determining the 'results' of training:

- Feedback from trainees and others: about changes and results.
- Participatory follow-up: asking, discussing, looking.
- Pre- and post-exams: looking for the differences.
- Action plan audits: whether plans developed during training have been implemented.
- Performance contract: whether this has been implemented.
- Simulations: assessing performance of competencies learnt.

The methods for assessing output are therefore similar to those used for assessing capability: itemising qualities; setting standards of judgement; observation; witness evidence and interviews; scrutiny of products of work. Naturally every opportunity for exercising this capability has to be investigated and quantified. Regarding *who* should assess, and *how*, the issues raised in the discussion in Section 1.4.3.1 above are equally pertinent.

1.4.3.3 Issues and problems in assessing 'capability' and 'output'

The 'gain-score problem'

In assessing the amount of output from a course one is faced with the gain-score problem. In situations where trainees start from different levels it is very hard to compare their achievements. Goldstein *et al.* (1993) attempted a purely numerical analysis of examination results of Inner London schools, but were forced to the conclusion that 'the uncertainty attached to individual school estimates .. is such that fine distinctions and detailed rank orderings are statistically invalid.' In the face of differences in the initial situation of the schools (which were relatively homogeneous) too many assumptions had to be made to allow inference of causes from consequences. Hamilton (1994) puts it in this way: ranking procedures in such situations are not so much established by logical interrogation of evidence, as engineered by other means, for example statistical inferences of very doubtful validity - doubtful because so many assumptions and simplifications have to be made, which is done subjectively.

Causality/ due-ness

Patton (1982) points out the obvious fact that it is very hard to be certain about causality in ascribing improvements to interventions like training. The best that can be done is to arrive at a reasonable estimation of the likelihood that particular activities have an effect, through systematic analysis of data to find patterns and relationships between training events and observed/ reported changes. One of the reasons why the institutional impact of training in a Peruvian project was not systematically monitored was that other influences were operating on the institution, besides the training, which might have also have an impact in the same areas (Schmidt, 1991).

The Hawthorne effect

The sense of experiencing a new way of working, of being the focus of attention, may improve morale and output - but the gains are not maintained (Roethlisberger and Dickson, 1950, pp.88-89). Output should be expected to vary with time.

Defining and assessing more complex results of training

More complex forms of impact are hard to assess - so evaluators tend to look for those which appear to be unambiguously linked to the training (Schmidt, 1991). Darbyshire *et al.* (1990) report on the difficulty which arises when written curricula (and therefore assessments) are completely outcomes based and behaviourist, because capability cannot be tested in isolation from clinical practice which cannot be perfectly standardised. Girot (1993) points to the danger that 'intuitive judgement' based on the complexity of numbers of factors can be disturbed by whims of personality and the nature of relationships. Eraut and Cole (1993) found two main problems in the process of assessing professional competence: patchy collection of evidence , and the lack of standardisation (using many assessors, while having no clear written standards).

1.4.4 Summary: key issues relating to the results of training

There is considerable confusion in the terminology that is used to describe 'output' and 'capability'. Output due to training has been shown to have several dimensions: changing one's own work performance; changes in the immediate system; and even general societal changes (Katz 1978, pp.22-24). The issue of output over a period of time has not previously been addressed in the available literature. Underlying output is capability - the potential to achieve output (Eraut and Cole, 1993). In this case it is a high level of capability, Schön's (1983, pp.49-50) 'knowledge-in-action', that has to change if changed output is to result. A change in output will follow if 'reconceptualisation' (Friedman and Lipshitz, 1992) has taken place during the training.

There are marked similarities in the methods used to determine both capability and output. Performance evidence has to be used, leading to an understanding of capability. Methods used are: itemising qualities; setting standard of judgement; observation; witness evidence and interviews; and scrutiny of products of work (Chambers and Glassman, 1997). Inevitably unique situations have to be used (not strictly controlled by the evaluator); but this has the advantage of seeing how practitioner functions in the real world (Eraut and Cole, 1993). The assessment tool therefore has to be flexible (Hepworth, 1989). The observer has to be an expert (Girot 1993), to be able to assess expert performance with validity - being aware of the danger of bias. This person judges what s/he observes against an 'acceptable standard'.

The following questions therefore arise, which need to be addressed in the present research:

- How is output due to training to be conceptualised in this situation - at different levels, in unique situations, over a period of time?
- How does capability relate to, and lead into, output?
- How is capability/ output to be determined?
  - 1.1 How is performance evidence from the real world (with its advantages and disadvantages) to be systematically used for this purpose?
  - 1.2 What tools are to be used for tis purpose?
  - 1.3 How can output be ranked, so that different outputs can be compared?
  - 1.4 Being aware that the judgements of the expert observer have to a degree to be intuitive, how can validity be enhanced?

1.5 Literature study: the process of 'entry' of candidates into the course

By 'entry' is meant all the events from the time that the idea was first mooted that a particular candidate should attend the course, until his/ her arrival in Liverpool. This includes getting to hear about the course; being selected, or allowed to attend; obtaining the necessary funding; and making the necessary arrangements to go. 'Entry' is important, because it should be amenable to rational management - especially if it is better understood, and its relationship to subsequent performance is clarified. Selection forms only a limited part of the process.

1.5.1 The ideal process

WHO (1976, pp.1-31) recommends a rational approach to developing human resources for health, which ideally should inform the use that governments and non-governmental organisations in developing countries make of the TPHC course. The recommended approach has five components:

1. The analysis and projection of health needs and the population's demand for services.
2. The measurement of present availability of human resources for health and an analysis of its pattern of utilisation and effectiveness *(in this case, determining the present deployment of trainers of health workers, and their skills and utilisation)*.
3. The estimation of future human resource requirements and of education and training needs in the light of overall health plans *(in this case, estimating future needs for trainers of a given quality)*.
4. The detection of imbalances between the estimated requirements and the expected supply *(in this case, balance between availability of and need for skilled trainers)*.
5. The formulation of policy to alleviate these imbalances, including measures to achieve optimum utilisation of the available human resources *(in this case, such a policy might include sending trainers overseas to gain the necessary skills)*.

A WHO report (1990, p.13) concerned with *coordinated health and human resources development* adds the need to assess the capacity in educational systems to respond to training needs, once these have been rationally identified.

Compared to the ideal set out above, WHO (1976, pp.1-31) describes a number of difficulties which arise in coordinating human resource development within health services:

1. A lack of coordination between health planning and educational planning - universities and schools are independent bodies.
2. The absence of formal administrative machinery conducive to collaboration between health planners and training institutions.
3. The mutual isolation of professional groups.
4. When faced with the need for changing roles, occupational groups jealously guard their traditional functions, leading to the creation of new professional categories rather than the rational reorientation of existing ones.
5. Haphazard post-basic and in-service education.

6. Methods of collecting information about human resources are not standardised, resulting in poor planning.
7. Absent or inadequate human resource planning - little coordination of the three elements of human resource development (planning, production, utilisation).

If these systems are not operating efficiently the motivation underlying sending candidates on overseas courses may well be influenced by other, less rational factors. Alternatively the process may be rational, but geared to the needs of the individual rather than to those of the organisation.

1.5.2 The motivation behind the 'entry'

Godlee's (1995) study of the World Health Organisation fellowship programme, which in many ways parallels TPHC-like training, raises important issues about the underlying motivation for sending candidates overseas to learn. A series of evaluations that have been conducted reveal that fellowships are not given for agreed priorities (Primary Health Care, management) - instead highly specialised areas of medicine predominate. There is also political pressure for allocations: they tend to be awarded to older people, some who have had multiple previous fellowships. Van den Bor and Shute (1991) raise the point that students in developing countries may consider higher education, irrespective of its content, to be a necessity for vertical mobility.

Regarding the motives of course organisers, Kinnell (1990, pp.21-28) found that tutors especially experience a conflict in that their recruitment standards set specific criteria (e.g. for language) on the one hand, but their units need more overseas students on the other, because they bring in much needed funds.

In analysing a basic level business education course in the UK, Challis (1983, pp.9-11) gives a picture of a course that is instrumentally used for purposes unrelated to its intrinsic merit and content, or to a job to be performed. The most common reason supervisors gave for sending students was that it was the policy of the organisation to do so. Job-related learning was rarely mentioned. The fact of attendance, and obtaining a qualification, was seen as more important than the quality of the training. Students' reasons for attending also had little to do with a job to be performed - most felt that the training had a minimal effect on their job anyway. This is reflected in the reasons they give for joining the course. A large majority did so to get better qualifications; other reasons given were that it gave them credits for professional exams, or was required by their employer. A minority mentioned interest in the course.

In a study of overseas students studying in the United Kingdom Elsey (1990, pp.46-62) found the most important student 'hopes' to be the acquisition of knowledge/ academic development, obtaining a qualification, and developing English language skills. The most important 'fear' was that of failing the course.

In studying the factors that influence employees' participation in staff development activities in the USA, Noe and Wilk (1993) investigated employees in health maintenance organisations, engineering firms and banks. A model was constructed which included antecedents like self-efficacy and work environment; mediating factors

like learning attitudes, perceptions of needs and perceived benefits; and organisational member characteristics. Only 'motivation to learn' was positively associated with participation in staff development activity. Bandura (1982) observes that individuals with high levels of self-efficacy are more likely to take responsibility for personal development. Nordhaug (1989) reports that employees perceive different types of benefit from development activities: development of learning motivation (desire for more learning/ development); career development (promotion, more interesting assignments); and psycho-social development (self-actualisation, greater ability to participate in social life).

In a study in the USA McEnrue (1989) found that 'position in the organisation' and 'length of job tenure' relate significantly to participation in development activities.

1.5.3 The flow of information relating to the 'entry'

Study objectives in the World Health Organisation fellowship programme are often poorly constructed. (Godlee 1995). In Challis's (1983, pp.9-11) example supervisors often appeared to have little or no knowledge of curriculum rationale or course structure - and many felt that there was no need to know. Understanding of what had been learnt or gained was equally limited. They were however aware of entry requirements. In a study of the experiences of overseas students studying in the United Kingdom Lewins (1990, pp.82-106) found that students' main source of information about what to expect was their informal network back home.

1.5.4 The organisation of the 'entry'

The World Health Organisation fellowship programme is bedevilled by the fact that most countries concerned have no specific human resource development programme. There is inadequate administration: often no selection committee is involved (as required by regulations), and no selection criteria are drawn up. Upon return of the candidates there is no assessment other than personal reports, which mostly never get submitted and then are only filed, rather than being evaluated and acted upon. In short, it is a basically flawed approach to capacity building, since no provision is made for support for trainees after their return (Godlee 1995). Lewins (1990, pp.82-106) reports that students feel strongly about the issue of recruitment. They are often informed very late of their being accepted, sometimes because they are used at the last minute to 'fill up' available places. Challis (1983, pp.9-11) raises the point that given courses may be particularly relevant to different stages of trainees' careers, which Minor (1992, pp.6-33) lists as follows:

- *Stage 1*: newly hired, working under supervision.
- *Stage 2*: responsible for projects from start to finish.
- *Stage 3*: responsible for the work of others.
- *Stage 4*: making policy, shaping direction.

1.5.5 Summary: key issues relating to the process of 'entry'

Given the present state of human resource management in the official health services of many countries, it is likely that the process whereby students enter into courses like TPHC will be far from a logical, job-related ideal (WHO, 1976, pp.1-31). The motives of the different players (sending organisations and potential students) in the process are often highly political (Godlee, 1995; Van den Bor and Shute, 1991). The motivation to learn is derived from perceived benefits (Nordhaug 1989) and the self-efficacy of candidates (Bandura 1982). The flow of information about the proposed training is likely to be problematic, as is the planning and organisation which precedes the course (Godlee 1995).

The following questions therefore arise, which need to be addressed in the present research:

- What is the underlying logic of the process of 'entry' to the course? To what degree is it job-related? To what degree is it perverted by other agendas and motives?
- How does this process affect the motivation to learn and the quality of the learning?
- How does this process affect the output that is finally achieved?

1.6 Literature study: factors influencing output due to training

In their analysis of the causes of performance problems in a variety of organisations, Mager and Pipe (1990, pp.59-61) identify a wide variety of possible reasons: not only a lack of information or training, but very often rather the conditions associated with the performance, or its consequences, or obstacles to it. In an investigation of deficiencies in worker performance in water supply programmes in developing countries. Carefoot (1987, pp.24-26) found that issues related to the work environment (tools, transport, procedures); to management (of finances, human resources, supplies) and to personal motivation account for 70-90% of deficiencies in performance. Again, only a small proportion of performance problems appeared due to a lack of skill and knowledge, and could therefore be expected to be rectified by training. In the field of management development for Primary Health Care in developing countries Cassels and Janovsky (1991) also stress the need for a set of structures and systems to be in place; for if they are not, training alone - which is often the starting point for such initiatives - will not be sufficient. Raven (1992) points to the need for changes at many levels, in the introduction of a more effective educational system.

Even if the TPHC course has caused ex-students to 'reconceptualise' (Friedman and Lipshitz, 1992), the degree to which they can implement their new knowledge and skills is therefore likely to be strongly influenced by Carefoot's (1987, pp.24-26) 'organisational' and 'personal' factors. In discussing 'learning organisations' Revans (1969) makes a similar point - his research shows that two sets of factors operate in the alienation of workers in rigid organisations: organisational structure, and individual motivation. In the social learning paradigm organisational behaviour can best be understood in terms of an interactive, reciprocal relationship between organisational behaviour, the organisational participant (including his/her cognitive processes). and the environment (including other organisational participants and variables). The participant's behaviour may be grounded in the environment, but it is also partly socially derived, and partly a product of conscious self-regulation and choice (Davis and Luthans, 1980). Morrison and Brantner (1992), dealing with factors inhibiting or enhancing the success of in-service training, express this range of factors as follows:

Figure 1.1 Factors affecting the outcome of in-service training

- *Individual differences*: background variables (age, sex, education level etc.); personality/ characteristics; previous experience.
- *Job characteristics*: motivational (complexity and challenge) and inhibitory (role conflict, ambiguity, overload).
- *The work context*: the organisation, in all its complexity.
- *The environment*: the national and local socio-cultural situation; personal (support system).

It is this model that will be followed in the ensuing discussion.

The model above is of course a simplification - the sets of factors are linked to each

other. For example, institutional structures influence behaviour indirectly by influencing motivation, and obliquely by developing understanding and competencies (Raven 1981, pp.98-126).

1.6.1 Individual differences

It is possible for innovation to be carried out not by a separate cadre of specialists, but by those who undertake the day-to-day work of the organisation, put together in a so-called 'parallel organisation' as in Kanter's (1985, pp.182-205) example at Chestnut Ridge. Those attending the TPHC course generally fit into this category - ordinary workers who may or may not have been innovators, but upon whom the role of 'agent-of-change' is now thrust since they are returning from a course overseas. This role as an innovator is also implicit in the TPHC course material - for instance, curriculum development (an important course component) requires the cooperation of a number of colleagues, who will have to be drawn in. The ability of the individual TPHC course graduate to influence others to accept change therefore has to be part of the matrix of factors influencing performance.

1.6.1.1 The 'agent-of-change'

Upon returning home the ex-student becomes involved in the complex process of change - with very little preparation for the role of change agent. Change needs a person who takes the lead: 'There would be no innovation without someone, somewhere deciding to shape or push an idea until it takes usable form' (Kanter, 1983, p.209).

The process of change

Kanter (1983, p.279)comments on the 'elusiveness of change' - how to be sure that one sees it when it happens - and tries to define it:

> 'Change involves the crystallization of new action possibilities, based on reconceptualized patterns in the organization. The architecture of change involves the design and construction of new patterns, or the reconceptualization of old ones, to make new, and hopefully more productive, actions possible.'

In considering the process of change Lewin's (1944, pp.37-41) 'field theory' in social science is a good starting point. Organisations (and the people in them) find themselves in, or tend towards, a state of equilibrium - a balance between the forces which push for change, and those which resist it. Changing organisations go through the well-known three steps: unfreezing, moving, and finally re-freezing (achieving a new equilibrium). Schein (1969, pp.98-107) extends Lewin's model by describing the mechanisms whereby such change may be effected:

Figure 1.2 Schein's adaptation of Lewin's model of the process of change

Step 1	'unfreezing' - creating motivation to change *mechanisms:* *a. lack of confirmation, or disconfirmation* *b. induction of guilt-anxiety* *c. creation of psychological safety by reduction of threat, or removal of barriers*
Step 2	'changing' - developing new responses based on new information *mechanisms:* *a. cognitive redefinition through:* *i. identification: information from a single source* *ii. scanning: information from multiple sources*
Step 3	'refreezing' - stabilising and integrating the changes *mechanisms:* *a. integrating new responses into personalities* *b. integrating new responses into significant ongoing relationships through reconfirmation*

Lewin (1944, pp.37-41) and Kanter (1983, p.209) point out that 'unfreezing' usually requires external pressure: for example current movements, with which the agent-of-change may identify to further his/ her cause; and it is generally more effective to lower the opposing ones, rather than pumping up the driving ones (Elton, 1981). In both steps ('unfreezing' and 'moving') agents-of-change are more effective if they work together.

Change takes time. Fleury (1993) mentions two distinct phases of change in organisations: the initiation phase, and the consolidation phase. In his study of the mental process of accepting change, Rogers (1967, pp.81-86) lists five stages: awareness, interest, evaluation, trial and adoption. This process usually takes time, and rejection is possible at each stage; innovators have to be aware of the process and proceed stepwise, not having unrealistic expectations of immediate adoption.

Roles in the process of change

Havelock (1973, pp.7-9) describes four 'change agent roles' in the field of education: *catalyst* (prodding the system to be less complacent); *solution giver* (offering expertise at an opportune time); *process helper* (facilitating the process of group problem solving); and *resource linker* (bringing together needs and resources). Change agents do not have to be forceful - Kanter (1983, pp.210-212) talks of 'quiet entrepreneurs'.

In the case of innovation in teaching, the need to be 'experimental' in the face of complexity is reinforced by Loucks-Horsey *et al.* (1987, p.97). Learning about a new method may be a starting point, but by itself does not cover the tremendous range of classroom situations and student responses. The innovators have to adjust continually, which requires experimentation and risk taking. The ability to do this depends on the nature of the teacher- especially his/ her ability to persevere - and also on a supportive environment, the nature of which is discussed later.

In their study of the reasoning and behaviour of persons trying to exert influence, Argyris and Schön (1974, pp.63-95) propose two extremes of a continuum of personal 'theories-in-use':

1. *Model I*: these persons have set theories (shorthands which inform their action) that they work with - if these fail or conflict with another's, they are not critically examined but applied with greater vigour; or others are blamed for their failure.
2. *Model II*: these persons are able to interrupt their own automatic thinking, and inquire critically into their own reasoning - and thus become 'reflective practitioners'.

This model is applicable not only to agents-of-change, but also to those to whom the change is addressed. Havelock (1973, pp.118-121) defines three types of people involved in the acceptance of innovation: innovators, resisters and leaders.

- The *innovators* are the risk takers; they read and use outside information; they are often fairly marginal in the group, and may be considered to be maverick - a possible liability for the change agent.
- *Resisters* are those who actively defend the existing system.
- The *'opinion leaders'*, have been shown in studies to be particularly important in innovation. They are usually influential, held in high esteem, and powerful. They do not try out innovations themselves, but strike a political balance between innovators and resisters - their influence may legitimise an innovation (especially if they are seen to fulfil the role of a gatekeeper). They like to be seen to sponsor popular, successful innovations and do so to increase their power.

Strategies of agents-of-change

Agents-of-change find themselves in different positions with respect to the organisations they are trying to influence: from inside or outside, and from above or below (Havelock 1973, pp.10-11). Those wishing to achieve change use a variety of strategies, which may be done systematically (with a concrete grasp of the process of change) or intuitively. Benne and Chin (1969, p.34) give the following classification of strategies:

- Rational/ empirical (persuading through reason).
- Normative/ re-educative (education, informal influence, group pressure leading to changed norms).
- Power/ coercive (sanctions and rewards).

Havelock (1973, pp.153-168) describes three major 'strategic orientations', often used in combination:

- Problem solving (by means of action research, T groups etc.)
- Social interaction (through networking or 'selling')
- Research, development and diffusion (through experimental demonstration).

Gale and Grant (1992, pp.10-17), investigating the management of change in medicine in the UK, found that efforts to promote change have to be systematic and to take into account the specific nature of the professionals concerned (doctors, in this case). They list:

- Consultation (doctors are used to being consulted, and take exception to being told what to do).
- Demonstration (the scientific basis of medical practice makes doctors uncomfortable with purely personal opinions).
- Ownership (doctors are used to being autonomous).

Other factors of importance were found to be negotiation (achieving agreement/ consensus/ ownership); taking constraints into account; and using available resources. The main strategies are summarised in Table 1.7.

Table 1.7 The strategies of agents-of-change

	Havelock (1973)	Benne and Chin (1969)	Gale and Grant (1992)
1	research, development, diffusion	rational/ empirical	demonstration
2	social interaction	normative/ re-educative	consultation
3			promoting ownership
4	problem solving		negotiation
5		power/ coercive	

In each approach the role of relationships - past, present, and future - is of great importance (Morrison and Brantner, 1992).

On a more practical level Kanter (1983, pp.221-228) discusses the ways in which a change agent mobilises the source of power s/he needs. She identifies the following 'power skills': clearing the investment (with immediate superiors); pre-selling it (to colleagues and subordinates); horse trading ('If I do this will you do that?'); securing blessings from top management (getting their approval); and formalizing the coalition (of those who have agreed to participate).

Agents-of-change have to work within the decision-making spaces in their organisations (Smith *et al.*, 1980):

1. *'Controlled'* space: the area that is under the control of management (e.g. setting objectives, making plans of action, use of staff, resource allocation) - coincides with the boundary of the organisation - the internal environment.
2. *'Influenceable'* space: groups from which the organisation receives inputs and to which it sends outputs; it cannot control them but can exert some influence (e.g. the objectives and practices of similar/ nearby organisations).
3. *'Appreciated factors'*: factors over which no influence can be exerted, but which affect performance - can only be taken into account when planning.

For agents-of-change the first is especially possible, but the second may be as well.

The innovation has to propagated on a wide front (Kanter, 1985, pp.169-171). Elton (1987, pp.173-174) points out that the forces Lewin (1944, pp.30-42) describes are strongly coupled - changes in one are likely to affect others as well. As many as possible have to be attended to if there is to be a chance of success.

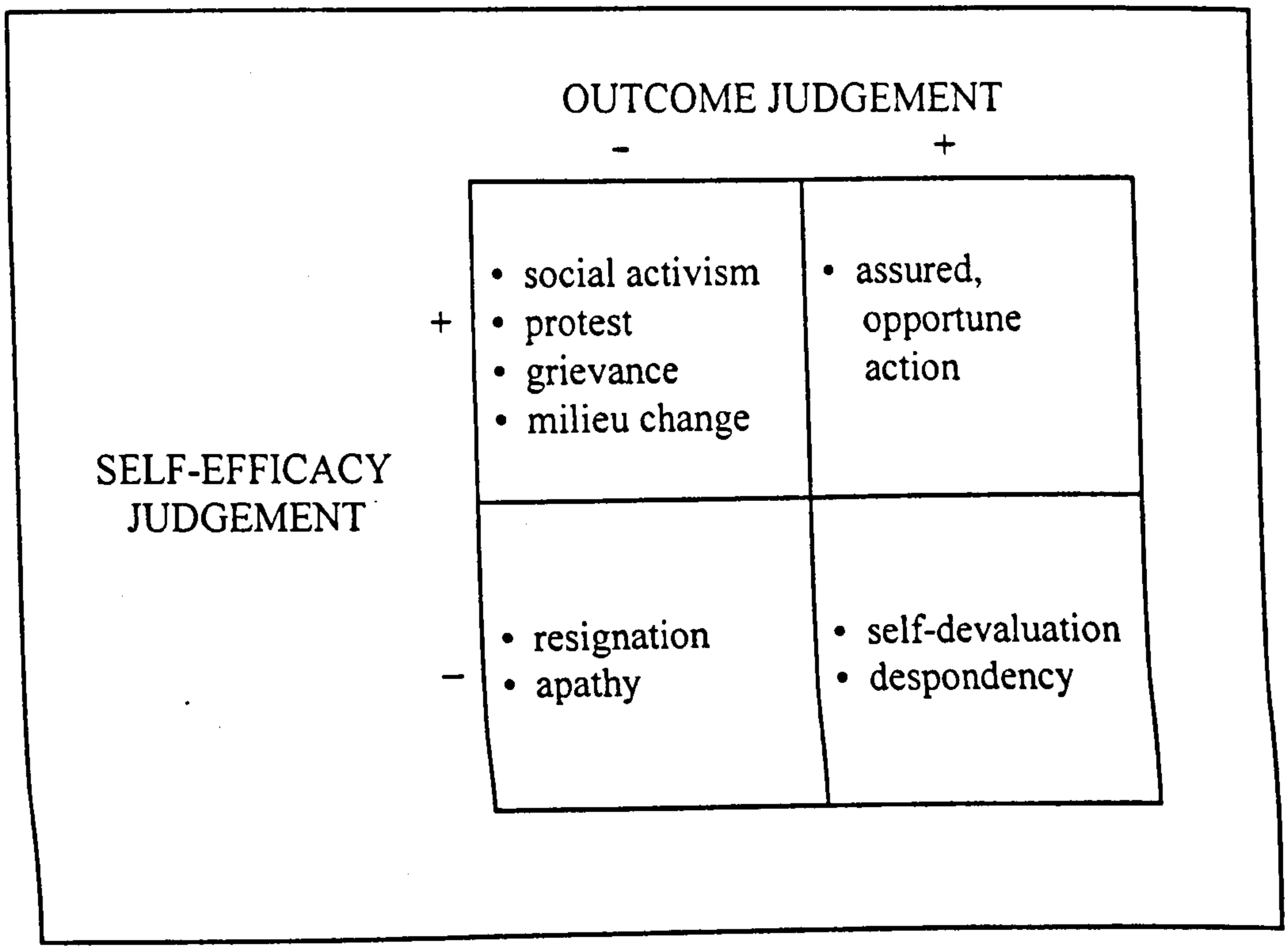
1.6.1.2 Self-efficacy, motivation, morale

Motivation - the second of Revans's (1969) determinants - may usefully be considered in the light of three concepts: self-efficacy, motivation and morale.

Self-efficacy

Self-efficacy (or more exactly, self-percepts of efficacy) is defined by Bandura (1982) as 'judgements of how well one can execute courses of action required to deal with prospective situations'. This useful concept expresses in a concrete way the fact that between the possession of knowledge and skills, and their application in action, self-conscious thought is operating. Its usefulness lies in the fact that there is strong experimental evidence of positive association between self-efficacy and performance, and in that it is able to explain why equally capable persons differ in attitude and approach, as in the following diagram:

Figure 1.3 The interactive effects of self-efficacy and judgements of outcome



If a person with high self-efficacy judges a proposed course of action to have a good likelihood of succeeding, the result is 'assured, opportune action'; an equally capable person with low self-efficacy becomes despondent. Morrison and Brantner (1992)

therefore cite self-efficacy as a particular contribution to the successful outcome of on-the-job training.

Motivation

Regarding motivation, Handy (1976, pp.31-47) tries to unify the multitude of experimentally based theories of motivation into a single workable model. In this model:

- 'Motivation' is seen in the way individuals deal with individual decisions, to do or not to do something within their organisations.
- Each person has a set of wide-ranging *needs* (which differ widely and vary with time), and a set of *desired results* (which the organisation is to deliver).
- When faced with a decision s/he calculates - usually instinctively - how much 'E' (energy, expenditure, effort etc.) needs to be spent so that the desired result, which meets a need, will follow.
- This mechanism operates within a *psychological contract* (a set of mutual expectations) between the person and the organisation.
- Motivation 'happens' when both the organisation and the individual view this contract to be the same - the amount of 'E' required then becomes acceptable.

This means there is no generic 'motivation' - rather, it varies with the individual and the particular circumstances.

'Needs' are crucial in motivation. One of the four conditions for success in implementing innovative teaching practices is that the change must be a felt need of the teachers concerned (Loucks-Horsley *et al.*, 1987, pp.99-100). McClelland (1961, p.43) identifies three groups of needs informing human action: the need for achievement, the need for affiliation and the need for power. The needs for 'power' and 'achievement' in motivating teachers to accept innovation are illustrated in Olson's (1988, pp.35-50) case study of two teachers in the United Kingdom. Both appeared to be considered *avant garde* in their subject, and one also tried to achieve outside recognition for her work - the innovation was perceived to enhance status and career prospects. McIntyre (1992) presents the case of learner teachers in the United Kingdom who are powerfully influenced by previous models of teachers. They have an internalised image of what it means to be a teacher, which is central to their need for self-actualisation when they join the training, and it is threatening and demotivating to them to change this image. This is dealt with by adjusting the 'psychological contract': giving them the space to experiment and test new ideas, while being thoroughly supported by their tutors and peers.

The *'desired results'* aspect of motivation is illustrated in Hulme's (1992) study of agricultural extension workers in various developing countries, where low motivation is stated to be due in no small part to low wages. Unacceptably low 'desired results' would clearly be a factor in such a situation. Doctors in a family planning programme in Bangladesh did not render the required service following training. The reason they gave was that they disagreed with or did not like the procedures they were trained to carry out (Amin *et al.*, 1988). Raven (1981, pp.98-126) makes the point that initiative only appears if elicited by valued goals; once it takes off it mobilises a host of cognitive,

affective and conative behaviours. Individuals are more likely to adopt behaviours if they value them, which makes them willing to spend more 'E' in pursuit of them. Similarly people may fail to attempt a particular innovation they have learnt about, because of the low value they give to it.

The role of *'psychological contracts'* is illustrated in a study of an academic teacher training unit at a Malaysian university, where it was found that staff most in need of such training asked for it least - very likely a case of divergent 'psychological contracts' (Elton and Manwaring, 1981). This point is further illuminated by Revans's (1969) description of the type of structure that favours the 'learning organisation' - it is crucial that workers should perceive management to be listening to them, thus converging the contracts of managers and the workforce.

A combination of aspects is illustrated in a study of the motivation of village health workers in an Indonesian programme, where Reis *et al.* (1990-91) found the workers citing motivating factors such as the appreciation of the community and of their supervisors - McClelland's (1961, p.43) 'need for affiliation' - and material reward - a 'desired result'.

Morale

Morale, the third related concept under discussion, is defined by Evans (1992b) as 'a state of mind determined by the individual's anticipation of the extent of satisfaction of those needs which s/he perceives as significantly affecting his/ her total work situation'. Evans further discusses the factors which her research showed to affect teacher morale in three British schools (Evans, 1992a). These were found to relate primarily not to national policies and directives, but to the actual work situation. (It should be noted here that organisational factors affect performance directly, and also by affecting morale). An important *personal* factor though was found to be 'challenge and responsibility' - seeing students progress, being given leadership roles, and implementing change successfully. This is without doubt related to fulfilment of needs at the levels of 'esteem' and 'self-actualisation' (Maslow, 1970, pp.97-100) .

The relationship between the three concepts may be summarised as follows:

Figure 1.4 Self-efficacy, motivation, morale

my present state	→ SELF-EFFICACY: my feeling about my ability to perform one of those future actions →	future needs and actions
	→ MOTIVATION: my decision that I am willing to take the trouble to perform specific future actions →	
	→ MORALE: my feeling about the likelihood that needs will be met by us all working together in the organisation →	

→ arrows indicate the transition from the present to future states

1.6.1.3 Mastery of knowledge and skills

A further important group of concepts related to the performance of the individual centre on the mastery of knowledge and skills. Eraut and Cole (1993), following on case studies of eleven professional groups in the United Kingdom, define *capability* (a potential - assessed by observing real or simulated situations) to have three components:

1. Underpinning knowledge and understanding of concepts, theories, facts and procedures.
2. The personal skills and qualities required for a professional approach to the conduct of one's work.
3. The cognitive processes which constitute professional thinking.

In practice the operation of this concept may be seen in the following examples:

- Finnstam *et al.* (1988) studied the outcome of skills training for community rehabilitation volunteers in Pakistan, and demonstrated deficiencies in Eraut and Cole's first strand (underpinning knowledge and concepts). While the training led to improvements in practice in several respects, it failed to do so in about 20% of cases because of a failure to include topics on important problems faced by the workers.
- Whitehouse (1997) followed up a group of teaching consultants who had undergone a short course of training as trainers, and found that some had never implemented what they had learnt because they lacked the confidence to do so. They did not feel sufficiently skilled (Eraut and Cole's second strand).
- A further example is given by Hulme (1992) in his report on agricultural development workers in developing countries. Their ability to perform satisfactorily is limited by the fact that their training is limited in scope, and they leave it not yet understanding the job they are meant to perform fully. They are lacking in Eraut and Cole's third strand, which they need to cope with the major differences between the organisation in which they learn, and the one in which they end up working - where they are required to design and experiment with strategies internally generated by themselves, based on the general principles and generic skills they acquired during training.

The link between mastery and self-efficacy is clear. The concepts related to capability, competence and performance were discussed in detail in Section 1.4 above.

1.6.1.4 Biographical details and personality

Finally there are what might be termed a person's biographical details. In a study of teachers in three different communities in the United Kingdom Maclure (1993) found that teachers' identities were more variable and incoherent than was previously thought. All the different dimensions of teachers' lives (career, home life, pedagogy) are knit together and find expression in their values and actions. Olson (1988, pp.35-50) found that the way in which teachers use innovations also has to do with the stage of their careers. Discussing what makes in-service training work Morrison and Brantner (1992) mention the following specifically: background variables like age, sex, educational level and marital status; and immediate similar previous experience. In the related field

of career development and choice, Minor (1992, pp.6-33) cites the importance of 'genetic endowment' (sex, age, appearance, inherent abilities); environmental conditions (jobs and training available); and learning experience ('instrumental learning' through formal instruction and experience, and 'associative learning' of attitudes and feelings). Regarding experience, Burgoyne and Stuart (1977) evaluated the origins of the skills of managers in the United Kingdom. The great majority were learnt by actually performing the job; in only 30% did formal education/ training play a part (and of those the majority were learnt outside the company).

Morrison and Brantner (1992) also mention 'personal characteristics' as a factor. The issue of personality has deliberately not been included as a factor in this analysis. Within a relatively homogeneous society, and a single subset of a profession, there are already wide and clearly evolving differences in 'latent identity' (Fox *et al.*, 1984). It would be very hard to locate one instrument (probably designed in and for the West, and tested there) which could classify with validity 87 persons with vastly different cultural and linguistic backgrounds. In addition there is no one personality that is specifically associated with success as an agent-of-change. In some situations assertiveness may be required, but in others subtlety may be more effective (MacDonald, 1992[2])

1.6.2 Job characteristics

To avoid overlap with the next section, the job itself is discussed here, and not the nature of the organisation within which the job takes place.

1.6.2.1 Areas of potential problems or conflict

Harris and Bell (1986, p.13) identify four current areas of potential conflict in the teaching/ learning situation: the 'teacher role' vs. the 'learner role'; a 'subjects' *versus* a 'learning' orientation; a 'behavioural' *versus* a 'contractual' style of learning; and a 'societal' *versus* an 'individual' purpose. These are amplified below by other examples. Their importance in this study lies in the fact that ex-students may change their perceptions under the influence of the TPHC course paradigm; problems may arise when they return to a situation which still operates according to more traditional principles.

The 'teacher role' vs. the 'learner role'

These roles are the product of long experience, and every teacher has expectations of these roles in her/ himself, in colleagues and in her/ his students. The model of Harris and Bell (1986, pp.118-124), which is discussed in some detail in section 1.3.5, postulates four 'teacher roles' (performer, composer, conductor, critic) and four 'learner roles (receiver, detective, generator, facilitator). Teachers and learners mix these roles, but one may predominate.

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A 'subjects' vs. a 'learning' orientation

Subject-centred learning makes it hard to accommodate different levels of entry; open learning makes it easier. Elton's (1987, pp.141-143) study, quoted before, showed that learners have different motivations to learn:

- An 'examination oriented' group: highly motivated, but need the security of knowing that their primary goal, the qualification, will be attained.
- A 'love of education' group: also want the qualification, but the love of education conflicts with the directive nature of most courses; need a more flexible approach.
- A 'link to experience' group: need to build on their past experience, and look for learning that does that.

The first are satisfied by a 'subjects' orientation; the second two by a 'learning' one. Schön (1987, pp.8-17) believes the focus should be on 'learning' - educating a reflective practitioner in 'artistry', not training an automaton.

A 'behavioural' vs. a 'contractual' style of teaching/ learning

The question of a predetermined end-point to learning, or an ongoing dialogue about learning objectives as learning proceeds, is addressed by Schön (1987, pp.22-40) and Hamilton (1994). In the sphere of professional education the need is not to produce an 'operative', strictly following algorithms which bear only a passing resemblance to the complexity of problems in the real world. Instead a 'reflective practitioner' is needed, whose 'knowledge-in-action' is enhanced through a tailored, negotiated learning process. Raven (1992), in discussing requirements for educational innovation, stresses the need for the recognition of accomplishment using a differentiated model of competence: all contributions and accomplishments are recognised and credited, with the understanding that different people have different skills and abilities in a team, growing together and supporting each other.

A 'societal' vs. an 'individual' purpose

The question of whether learning is about developing the individual, or about preparing the individual to fit into society, is on ongoing one. It is highlighted by Raven (1990) in his study of barriers to teaching innovation as 'dysfunctional beliefs about the role of the public servant'. Are teachers supposed be innovators/ activists, attending to their clients' educational needs - or are they supposed simply to do what the State says?

1.6.2.2 Other job related inhibitors and motivators

Challenge: The degree of challenge in the job is an important consideration. In their research on the factors inhibiting or enhancing on-the-job learning Morrison and Brantner (1992) identified role complexity on the one hand, and lack of job challenge on the other, as significant factors. Prosser (1980) points out that the total teaching and administrative load is a confounding factor in a teacher's ability to innovate: if it is too heavy they have less time for innovation, but if it is very light they may have too few opportunities for substantial contribution. From her studies of teacher morale Evans

(1992a) identifies the satisfaction of seeing the students progress as highly morale boosting.

Time as a circumstance: The interval that elapses between training and its observed effect needs to be taken into consideration. An evaluation of training impact by Coles and Tomlinson (1994) found that learners were more likely to use what they had learnt if there were immediate opportunities to do so. On the other hand Vaughan *et al.* (1984) comment on the impact assessment of a PHC project in India, where it took five years after the project input had been completed for the effect (reductions in morbidity and mortality) to appear. Chapko *et al.* (1984) report a a similar lag in a continuing education course for dental practices in the USA.

Instruments: The absence of the instruments needed to implement an educational innovation constitutes a barrier (Raven, 1990). The availability of a culturally accessible manual in the vernacular was a significant help to trainees in a community rehabilitation programme in Pakistan (Finnstam *et al.*, 1988).

Language ability: Wardhaugh (1986, pp.315-333) summarises the ways in which language ability can lead to educational disadvantage. The first situation where this happens is one where language and its use is related to social class. For example, Bernstein (1961) studied the effect of language ability on the ability to learn. He describes two groups of language ability: the 'restricted code' (used by the working class - limited and repetitive, literal, rigid, shared speech habits) and the 'elaborated code (used by the middle class - richer, abstract, discriminating, more personal). The educational system is based on the elaborated code, so restricted code users - students from humbler origins - are at a disadvantage. The second concerns the fact that non-native speakers use a variety of language that, while being neither deficient nor unsystematic, is sufficiently different from the 'standard' to constitute a communication barrier. Walker (1976, pp.42-43) reports 'linguistic interference' between a second language and the ingrained habits of a native language - and the amount of such interference varies from language to language. Many of the TPHC course graduates have to teach in what is their second or third language, to students in the same predicament.

Other factors relating to resources and time are discussed below, in the context of the organisation in which the tasks are performed.

1.6.3 The work context

Within their organisations the ex-students operate under the influence of the force fields which drive and oppose change.

Morrison and Brantner (1992) cite 'organisational climate' as a factor of considerable importance in the success of in-service training. The concept 'organisational climate' is fairly loosely used in the literature related to the effect of the organisation on output after training. It is formally defined by Morse and Lorsch (1970), in terms of seven characteristics: structural orientation; distribution of influence; character of superior-

subordinate relations; character of colleague relations; time orientation; goal orientation; and top executives' 'managerial style.' The aspects of organisations that govern their reaction to change is given by Schön (1971, pp.33-36) in the following model:

Figure 1.5 Schön's model of aspects of organisational change

1.	*Structure* • hierarchy and interaction • relationships of control • definition of roles • the match between structure and function
2.	*Theory* (which sets out what the group is and what it stands for) • formal theory • informal theory • value systems
3.	*Technology* • tools (hard) • techniques (soft)

This structure will be used as a broad framework for discussing other findings and viewpoints about organisations and teaching innovation. It should be noted that there is considerable overlap between these categories.

1.6.3.1 Structure

Hierarchy and interaction (how the different levels relate to each other physically)

In discussing the ways in which innovation takes place in organisations Schön (1971, pp.80-115) gives two models:

- *The 'centre-periphery' system*: the issue is the innovation; the scope of the innovation is limited by the energy of the centre.
- *The 'network' system*: the issue is the system which is changing; the scope is limited only by infrastructure and technology.

Organisations that function on a rigid hierarchical basis are at a disadvantage compared to those which make room for 'generalists' performing a range of functions. An essential part of a climate which facilitates the introduction of innovation is participation in management: purely hierarchical management is not appropriate, and the 'flatter' the hierarchical arrangements are the better (Raven, 1992). In a situation of change Revans (1969) regards the distance between management and workforce as critically important - the extent to which workers feel the management listens to them. Such communication is crucial to learning and adjusting to change. The alternative is seen to be alienation, remoteness from decision making and being ignored, which leads to personal and institutional breakdown. New ideas may enter an organisation from the top or the bottom, and blockage in either direction increases alienation.

Performance problems are caused when there is a shortage of supervisory and management skills at any level, and when supervisors are unskilled in communication (Carefoot, 1987, pp.24-26). Finnstam *et al.* (1988) report that the ability of trainees to implement what they had learnt was enhanced by continued communication between the workers and their supervisors. Lack of standards and poor feedback to employees are a major cause of performance problems (Mager and Pipe, 1990). Raven (1992) also emphasises the need for systematic monitoring and review of existing and innovative activities (which is seldom systematically done, and if it is findings may not be acted upon). There should be informal monitoring and formal evaluation, both of outcome and of the teaching/ learning process. The mutual understanding developed through such review processes is crucial.

Relationships of control (how the different levels relate to each other emotionally)

A crucial factor in the ability of teachers to implement innovative practices successfully is that the leadership promotes the practice as important, and supports teachers working on it (Loucks-Horsley *et al.*, 1987, p.101). The leadership acts by legitimising new efforts, providing time and resources, give moral and physical support, and helping to select staff for training. Evans (1992a) found morale among teachers in schools to be strongly related to the headteacher's behaviour - aspects like accepting the viewpoints of his/ her staff (especially the more junior ones); autocratic or democratic behaviour; enforcing necessary discipline; appreciation of efforts made; and sensitivity to personal problems. Even problems of school organisation and management are mostly seen to be related to leadership style and substance.

The presence or absence of a cooperative ethos is a common theme. Attitudes of colleagues to educational innovators can be synergistic or inhibitory to change (Prosser, 1980). Evans (1992a) cites inter-personal relationships (with colleagues and students) as a significant factor in determining morale. Wildman and Niles (1987) cite collaboration as an important factor in promoting change. Learning to teach is complex, time consuming and difficult. Cooperative collegiate groups are sources of emotional support and new ideas, and also counteract isolation. Kanter (1985, pp.221-228) points to the critical need for coalitions to be formed, both within and outside the immediate group - with these they can try to influence external constraints. Personal feedback from knowledgeable persons is more effective than an impersonal report, in bringing about change (or even the desire to change) in teachers' practice (Baggott, 1987). The mechanism whereby this operates in the context of innovation is explained by McIntyre (1992). Teachers have an internalised image of what it means to be a teacher, mostly based on role models, which informs how they work. It is personally threatening to have to change, so an experimental approach should be encouraged where new ideas are tested - with thorough emotional support from colleagues throughout. On the other hand innovation is stifled when departments and individuals continually challenge and criticise each other's proposals, or insist on keeping to the bureaucratic 'letter of the law' (Kanter 1985, p.101). Prosser (1980) found that junior teachers' ability to innovate is significantly inhibited if they are working jointly with senior persons.

Autonomy is essential for personal growth (Wildman and Niles, 1987). It has been proven that fostering a culture of responsibility for growth is more effective than hierarchically driven personnel development programmes. Kanter (1985, pp.121-126) describes what can happen when management decides to 'energise the grassroots' by enabling them to contribute to innovation. Here those are identified who are best suited to innovative work, and resources are channelled to them. They work in fluid networks of working groups, bringing together a variety of people - a 'parallel organisation', complementary to the existing structure. Evans (1992a) describes how job challenge and responsibility enhances morale.

Kanter (1985, p.101) summarises the problems that can arise in this area in her 'Ten rules for stifling innovation':

1. Regard any new idea from below with suspicion.
2. Always pass decisions upwards.
3. Ask departments and individuals to challenge and criticise each other's proposals.
4. Express criticism freely, and withhold praise.
5. Treat the identification of problems as signs of failure, to discourage people from pointing out things that don't work.
6. Control everything carefully and minutely.
7. Make decisions about change in secret, and introduce them unexpectedly.
8. Limit the spread of information as much as possible.
9. Let lower level managers implement unpleasant decisions (like cutting back).
10. Live out the conviction that top management knows everything.

Definition of roles

Raven (1992) in his detailed study of the components of a climate which is conducive to the introduction of innovation in a particular educational innovation, stresses the need for a concern with clarity: the definition of the roles of all concerned. Carefoot (1987, pp.24-26) in his study of performance problems in water supply programmes in developing countries, notes the negative effect of a lack of clear job descriptions, guidelines for work performance and work standards. Equally important is the recognition of accomplishment using a differentiated model of competence: all contributions and accomplishments are recognised and credited, with the understanding that different people have different skills and abilities - a team, growing together and supporting each other (Raven, 1992). Successful teamwork requires people to play a variety of skilled roles, to make sure a few key things get done (Herriot and Pemberton, 1995, p.2).

Changes are required in the job definitions of teachers and principals: teachers can no longer simply be seen as functionaries who are there to carry out directives. Rather they can now engage in innovative action in the public interest, and are then accountable for what they decide to do. This is in contrast with situations where teachers are not supposed to be activists, but to do what they are told to rather than attend to clients' educational needs. In such situations innovation is the prerogative of management or central authority, which is supposed to see which changes are needed and then to enforce them (Raven, 1990).

The match between structure and function

When an institution is out of step with the developmental needs of its workers, alienation results (Revans, 1969). Cassels and Janovsky (1991) highlight the problem that arises if the structures which exist are at odds with the orientation of the training. There is often a mismatch in health systems between strategy and structure - so for example the way in which training is done (top-down, authoritarian, discouraging student initiative) is at odds with the Primary Health Care strategy of community participation, and the educational strategy of student-centred training. A WHO (1976, pp.1-31) guideline warns that power politics and traditions within a training institution may easily resist smaller, progressive groups functioning rationally. Schmidt (1991) found that poor performance after management training was in part due to inappropriate administrative procedures and structures. In her examination of Brazilian companies undergoing change Fleury (1993) found that change is inhibited when the production systems and techniques change, but the management group stays the same.

1.6.3.2 Theory

Formal theory

The importance of a supportive human resources policy in organisations is a key finding of Carefoot's (1987, pp.24-26) study. Performance problems result when there is a lack of career development policy; a lack of plans for human resource development; non-motivational organisational rewards; and inefficient deployment of available human resources. Constant improvement of conditions of service (including career development, supervision, working conditions, ongoing education) must be an integral part of human resource policies in health care organisations (WHO, 1990, p.13). Without the necessary staff development innovation is doomed (Elton, 1981) (Raven, 1992). The absence of a means of giving credit to those involved in a teaching innovation (both teachers and students) constitutes a barrier to its implementation (Raven, 1990). There may be no incentive to change traditional and irrelevant sections of curricula (WHO, 1990, p.14).

Informal theory

Carefoot's (1987, pp.24-26) study of performance problems in water supply programmes in developing countries found that low salaries are an inhibiting factor - similarly Steyn *et al.* (1991, p.56), in the case of community based nurses in South Africa. This contrasts with Evans's (1992a) research among teachers in the United Kingdom, where conditions of service, and even salary, are less important for morale than organisation, leadership and inter-personal issues. Departmental policies regarding funding of teaching affects teachers' ability to innovate (Prosser, 1980). Change in the financial situation of organisations is an important force for promoting or inhibiting change (Fleury, 1993).

Value systems

The degree to which the organisation values innovation is crucial. Raven (1992) points out the need for explicit emphasis on the importance of innovation in organisations - a belief that it is important to find better ways of doing things. 'Developmental environments' need to be created, and there should be an appropriate concept of risk - realising that a certain amount of failure is to be expected and allowed for. For change to spread from individuals to their 'client systems' the system needs full understanding of consequences, and trust in the initiator (the quality of relationship is crucial here) (Bennis, 1966, pp.172-176). The change effort needs to be legitimised by management and reference groups. The organisation has to become a 'learning organisation' (Revans, 1969), constantly involved in a cycle of action and reflection.

The opposite is described by Evans (1992a): a 'school professional climate' where 'practical concerns, prejudices and conventional wisdom dominate over pedagogical concerns, innovation and reflectivity'. Elton (1981) cites two important obstacles to change in universities: the strength of tradition (which almost universally resists rather than welcomes change) and the departmental ethos (very narrow and parochial). Steyn *et al.* (1991, p.63) describe a situation where community-based education suffered due to the fact that management considered clinical work to be a priority. Harrison (1962, pp. 270-271) found that even personnel with high status are unable to transfer the ability to deal effectively with interpersonal and emotional issues in management, if the system does not value these behaviours.

There is bound to be conflict between the proponents of different value systems in teaching. This may take the form of a conflict between those who advocate higher level learning, and those who believe that 'teaching means telling' - with the latter questioning the legitimacy of the former (Raven, 1990). From their experience in an innovative Primary Health Care teaching programme in South Africa Hammond and Mazibuko (1981) blame professionalising tendencies within the health professions (especially nursing) which make change difficult to introduce because of strong socialisation and vested interests. Primary Health Care related initiatives may therefore be left unsupported and undermined by professional health workers who feel threatened by the new auxiliaries, and by the egalitarian philosophy which informs their training. This is reinforced by Raven (1990) - a value conflict is inevitable when the system does not want highly skilled, innovative, energetic people, and feels threatened by them. The implication is that, for educational innovation to be accepted, it has to fit the organisation's norms - and has to be seen to work well (Loucks-Horsley *et al.*, 1987, pp.105,122). Procedures for handling the conflicts which arise during innovation need to be in place (Raven, 1992).

1.6.3.3 Technology

Kanter (1985, pp.169-171) emphasises the need for time and resources to be set aside for activities that result in innovation and improvement. Loucks-Horsley *et al.* (1987, pp.100-101) cite the recognition that change takes time, resources and attention as one of the conditions necessary for successful implementation of innovations in teaching practice.

Tools

In the study of Steyn *et al.* (1991, p.41) trainees' ability to implement the skills they had learnt was inhibited by a lack of transport, so that they were unable to get to the sites in the community where they were expected to operate. Amin *et al.* (1988) report a training programme in urban Bangladesh where a significant proportion of the trainees subsequently could not render proper services due to a lack of suitable clinical facilities and instruments. Finnstam *et al.* (1988) also cite poor availability of health care services as an inhibiting factor in implementing what had been learnt.

Time as a resource

Time as a resource has two aspects: individuals having enough time to innovate, and enough time being allowed for innovations to start having their effect. Time is one of Wildman and Niles's (1987) three factors which are essential for personal growth in teachers: time to learn, time for new preparation and practice. Time is seen to be a prerequisite for teacher growth, and one way or another carries (at least temporarily) a financial implication. In some situations it takes time for the results of training to become apparent. Whitehouse's (1997) study of a 'training of trainers' course for consultants in teaching situations in the United Kingdom also recognises time as a resource. A number reported that they failed to implement what they had learnt because they lacked the necessary teaching aids, but also because of a lack of time in view of their many responsibilities. Raven (1990) makes a similar point: more student-centred teaching, requiring the teacher to cater for diversity, raises questions of practicality - busy teachers may find it impossible to deliver two or more simultaneous programmes.

1.6.4 The environment

This is the fourth of Morrison and Brantner's (1992) factors influencing training.

Policy and support

The three interconnected processes of human resource management (policy formulation and planning, education and training, management) need to be coordinated as closely as possible within the health service as a whole. Relevant policies, political commitment, educational capacity and conditions of service should form a seamless whole (WHO, 1990, p.13). If a country's health service and human resources for health are nationally and rationally planned, trainer skills can be more easily applied (WHO, 1976, pp.1-31).

When Schmidt (1991) studied the reasons for poor performance resulting from management training in developing countries, it was found that efforts at building capacity were undercut by donor blueprints and pressures to achieve targets. Tertiary education may operate without taking cognisance of national health needs, resulting in (for example) too many graduates in the social sciences, or graduates with knowledge and skills not suited to the needs of development (Van den Bor and Shute, 1991).

In contrast Steyn *et al.* (1991, pp.3-5,34), in their study of an innovative educational programme in South Africa, found that the existence of a clear policy at central level was helpful in achieving acceptance of the innovation; in promoting moral support for it at a local level; and in enabling resources to be allocated to it. The support given to local programmes by a regional resource centre was also a critical factor in its development. A health input into a national 'training of trainers' programme for teachers in the Philippines succeeded because it was centrally coordinated and carefully supported logistically (College of Education, 1991, pp.1-5).

Other external influences

Even if there are excellent, comprehensive national plans, other influences (political. economic, professional) may interfere with these (WHO, 1976, pp.1-31). A variety of external forces may induce change in individual organisations: the national/ international market situation, and the economic/ social policies of the State (both of which impinge on the financial situation of the organisation); and the pressure of new ideas and methods which become fashionable in industrialised countries (Fleury, 1993).

The personal environment

Educational innovators need to have external links as well (Raven, 1992). Work is required outside the school to identify and tackle wider constraints: for example, the concerns of parents. Equally important is the need they have for external support: since innovators cannot please everybody they need a network of peers outside - for support, ideas, and encouragement.

1.6.5 Summary: key issues related to factors influencing output due to training

Performance problems are more commonly due to deficiencies in the overall performance system, than to lack of knowledge and skill (Mager and Pipe, 1990, pp.59-61). Factors which inhibit or enhance the effect of training may be related to individual differences, job characteristics, the work context and the environment (Morrison and Brantner, 1992).
Factors relating to the nature of the individual affect output. They are cast in the role of agents-of-change in processes of change (Schein, 1969, pp.98-107). They may assume a variety of roles as innovators (Havelock, 1973, pp.7-9), as may those who receive the innovation (Havelock, 1973, pp.118-121). In relation to change they may themselves adopt the role of 'reflective practitioner', or resist reflection (Argyris and Schön, 1974, pp.63-95). In relation to their job people vary in self-efficacy (Bandura, 1982), motivation (Handy, 1976, pp.31-47), and morale (Evans, 1992b) - all of which affect how they cope with the circumstances they are in, and the work they perform. Biographical details such as experience, and social class and standing (Morrison and Brantner 1992) may similarly affect their ability to produce an output.

The characteristics of the actual job in which people find themselves also affect output. There are areas of potential conflict in the teaching/ learning situation (Harris and Bell, 1986, p.13). Performance is also affected by the degree of challenge (Prosser, 1980), by

time as a circumstance (Chapko *et al*, 1984); by language (Wardhaugh, 1986, pp.315-333).

Factors related to the work context (structure, theory and technology) affect performance (Schön, 1971, pp.33-36). Regarding structure, the way in which hierarchy and interaction are structured physically is important (Schön, 1971, pp.80-115), as are relationships of control - the psychological aspect of structure. These are seen in the support leaders give to change (Loucks-Horsley *et al.*, 1987, p.101); in the presence/ absence of a cooperative ethos (Wildman and Niles, 1987); in space allowed for individual autonomy (Kanter, 1985, pp.121-126). Role definition within a team affects productivity (Carefoot, 1987, pp.24-26), which is also dependent on the match between structure and function (Cassels and Janovsky, 1991). Regarding theory, there is a need for formal policies to support innovation (WHO, 1990, p.13). Informal policies also have an effect: salary (Steyn *et al*, 1991, p.56), conditions of service (Evans, 1992a). The value systems of the organisation inform its theory - innovation may be welcomed and actively catered for, or resisted - tacitly or openly (Raven, 1992). Finally technology plays a role: provision of the necessary tools and time (Whitehouse, 1997).

Other environments affect aspects of performance. It is enhanced by rational national policy (WHO, 1990, p.13), and affected by the pressures exerted by donors (Schmidt, 1991). National and international events and financial realities may have a marked effect (Fleury, 1993). Personal links and support affect the ability of individuals to perform (Raven, 1992).

The following questions therefore arise, which need to be addressed in the present research:

- Given that performance problems are more likely to be due to problems in the system than to a lack of knowledge and skill: which are the problems in the ex-students' performance systems, and how do they influence output?
- Relating to individual differences:
  - * Have students changed at the end of their training experience in Liverpool?
  - * Are they the kind of persons who embrace change? How do their self-efficacy, mastery of skills and biographical details affect their desire for change, and their ability to bring it about?
  - * Do they have a plan for changing their work when they get back? Do they try to do so? Are they effective 'agents-of-change'?
  - * What happens to them as persons as they try to innovate? What becomes of their motivation and morale?
  - * How do concepts like re-conceptualisation, experience, self-efficacy, mastery and capability interrelate in these persons, and help one to understand their subsequent performance and output?
- Relating to the nature of the job the ex-students go back to (as teachers, administrators etc.): how does it affect their ability to produce an output and bring about change?

- Relating to the work context:
  - * Does the hierarchical structure of the organisation allow for this kind of innovation, e.g. by a fairly junior person?
  - * Are the structure and proposed functioning of the organisation in harmony?
  - * Is there sufficient support for the change agent? Is there a spirit of cooperation? Is some autonomy of action allowed?
  - * Is the role of the potential innovator clearly defined?
  - * Do the formal policies of the organisation support the change agent? and the informal ones (e.g. pay, which is linked again to motivation)?
  - * Does the organisation value innovation and innovators, and make allowances for them?
  - * Do innovators have the time and tools they need for their new activities?
  - * How do these work related factors relate to each other, and how do they affect output?
- Regarding other environmental effects:
  - * Is there a rational regional/ national policy to support the kind of innovation that the ex-students are trying to bring about?
  - * Are there other national/ international influences which help and hinder?
  - * Are personal relationships/ links important in supporting/ hindering the innovators?
  - * How do these environmental factors affect output?
- Are all of the factors mentioned above relevant to this case? What are their relative strengths? Are there others which do not appear in the literature?
- How can all of these factors be taken into account, so that the effect of costly training can be optimised?

The process being followed required a broadening of understanding of a wide-ranging set of disciplines and processes. After this had been attempted, a methodology needed to be developed to achieve the objectives of the study.

Chapter 2 Methodology

As set out in Section 1.2, the objectives of the investigation were:

- To assess the actual output resulting from the exposure of participants to the 'Teaching Primary Health Care' (TPHC) course.
- To describe the process of 'entry' into the course, to analyse factors affecting such 'entry', and to analyse the relationship between 'entry' and output.
- To explore factors that may influence participants' output, in relation to work circumstances, the nature of the job, personal factors, and other environmental effects.

An ancillary objective was to develop a suitable methodology to achieve these objectives.

2.1 The study design

A universally accepted way of determining with validity whether a 'treatment' has had an effect is to set up an experiment (Campbell and Stanley, 1963, pp.171-246):

- An ideal design for such an experiment would be the 'separate sample pretest-posttest' design:

$O_1 \rightarrow X \rightarrow O_2$	(observation - treatment - observation: experimental group)
$O'_1 \rightarrow X' \rightarrow O'_2$	(observation - no treatment - observation: control group)

  * This design would have required a cohort to be identified before coming on the course - for example the 1992 group. This was problematical in that the cohort was still being formed right up to the start of the course: at least five candidates were only selected at the last minute, and at least two others were not teaching before the course and would only do so afterwards. Using one cohort would also fail to take into account the other 250 ex-students who had attended the course in the past, and the research would not be able to pick up longer term effects - which turned out to be many [1, 77, 80, 86]. Also, the time scale of the research funding made it impossible to do a follow-up visit a few years later.
  * Obtaining a matched control sample would also be extremely problematical. Teacher-trainers have long and varied histories, and multiple exposures to teaching methodologies and techniques (this was amply confirmed during the research). Colleagues in the same institutions could not be used, since TPHC ideas and skills could have been transferred to them. Training institutions are also unique, and the practical difficulties of finding a good fit for at least thirty unique individuals in other, very similar institutions in several countries during a single visit could be expected to be very great. In all, the task was judged almost impossible: if controls differed in, for example, their past exposure to teaching methodology, or if their work circumstances were more supportive of innovation, conclusions drawn would be invalid.

* A further problem concerns the observations that would have to be made. Not all the ex-students teach full-time, and if they do the kind of teaching they conduct during a specific period may include only a few of the skills taught on the TPHC course. If a protracted period of time had to be spent with each ex-student and his/ her control, the sample would have had to be very small. The need to rely on historical evidence is therefore inescapable.

- As far as experiments are concerned, this leaves the 'posttest only control group (*ex post facto*)' design:

X → O (the experimental group gets observed after receiving the treatment) X' → O' (case controls - without the treatment - are similarly observed)

Again, the experimental group was self-selected and extremely heterogeneous, making selection of controls problematical. The problem regarding observation also applies.

It was decided that to attempt an experimental design in the classical sense was therefore not an option, in view of the criteria for experimental designs which needed to be met (Cronbach *et al.*, 1980, p.308):

Table 2.1 Inability to meet criteria for an experimental design

criterion	status
• meaningful, describable treatments • samples large enough for statistical power • genuinely randomised assignment • attrition low enough to maintain initial equivalence	• could be met • very difficult, in view of the probable duration of a visit • selection of controls highly problematical • no guarantee - only one third of ex-students had stayed in touch

The alternative in the traditional educational research paradigm would have been to use a weak so-called 'pre-experimental design' like the X → O, or 'one-shot case study' design. If the findings of the study were to have any meaning at all, a way would have to be found to reduce the barriers to internal validity that are present in such a poor design.

The method selected to achieve this was the *case study*, within a semi-experimental design, which is described in more detail below. Organisational behaviour does not occur as responses to a questionnaire - it has to be studied *in situ*, from an ecological perspective (Davis and Luthans, 1980). Adelman *et al.* (1980, pp.45-61) describe case study as:

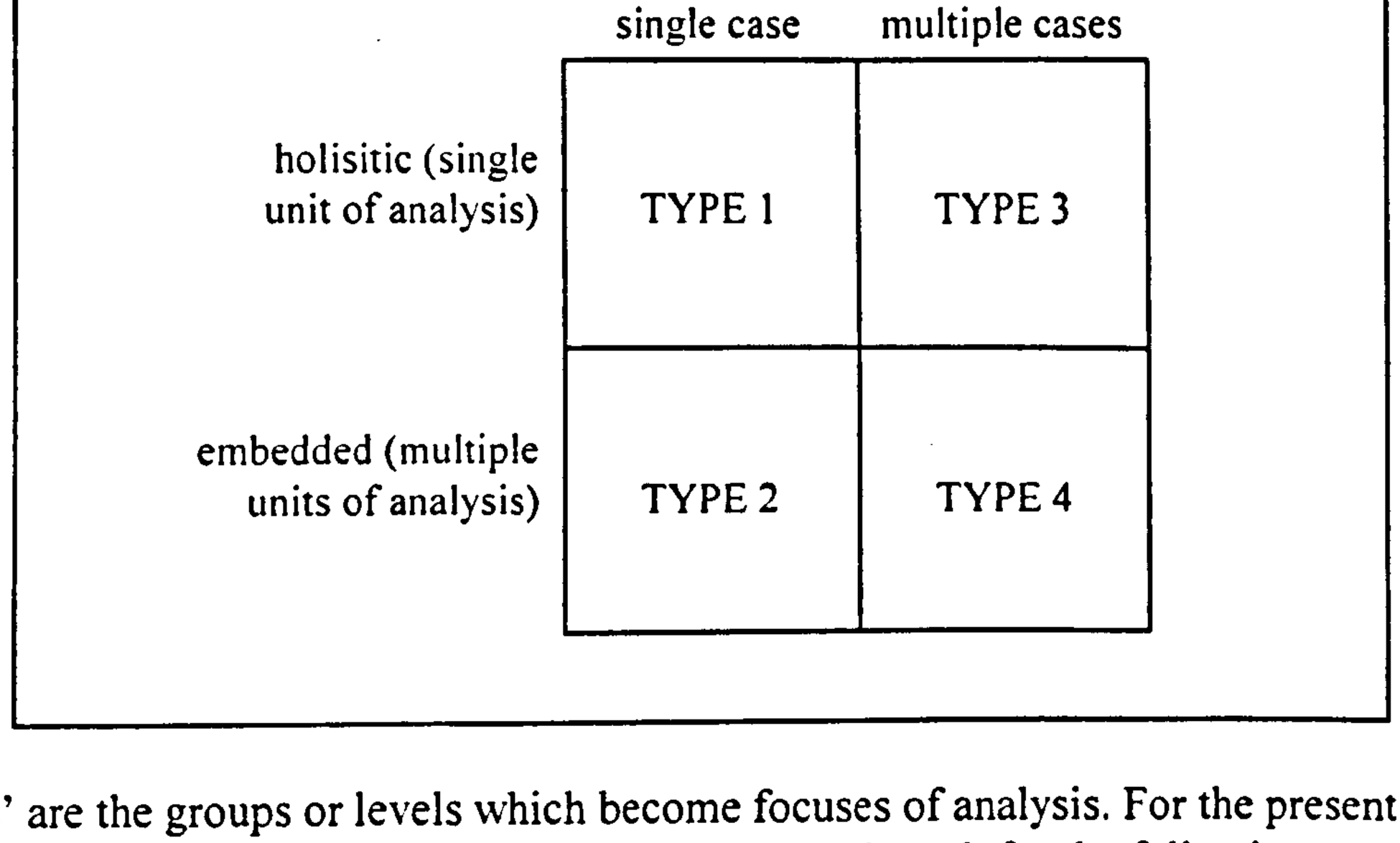
- a family of research methods having in common the decision to focus on enquiry around an instance
- the study of a bounded system or of an instance drawn from a class
- always involving the study of an instance in action.

Yin (1989, pp.13-26) defines a case study as an inquiry:

- that investigates a contemporary phenomenon within its real life context;
- where the boundaries between phenomenon and context are not clearly evident;
- in which multiple sources of evidence are used.

There are four types of case study design, each with its own strengths and weaknesses (Yin, 1989, pp.46-59):

Figure 2.1 Yin's (1989) classification of case study design types



'Units' are the groups or levels which become focuses of analysis. For the present study a Type 4 (multiple case, multiple unit) design was selected, for the following reasons:

- The ex-students of the TPHC course vary in a number of significant ways: the nature of their work; their seniority; their nationality, culture and class. This is in addition to the normal variables of age and sex. A single case study could not do justice to the variety.
- The study focuses on the ex-students, but also on the TPHC course as a whole. Two potential units of analysis are therefore present.

Adelman *et al.* (1980, pp.45-61) describe two types of case studies:

- Observational studies.
- Historical case studies.

The present study was largely historical (using recall of events, and documents produced in the past), but included observation of the current situation.

In this design each candidate was treated as a case study, within the larger study of the TPHC course as a whole:

- Drawing a representative sample of ex-students and visiting each one.
- Explaining the situation to each ex-student in the sample, and calling on her/ him to assist in working out the sequence of events around the TPHC course in his/ her life, as accurately as possible.

- Painstakingly working with her/ him to establish:
  * The relevant antecedents to, and production before, the TPHC course, thus producing a 'phantom control' (Burgoyne and Stuart, 1977).
  * Production/ output achieved after the course.
  * Factors influencing this production/ output.
- Triangulating this information rigorously with information from similar interviews with superiors and colleagues, observation of practice, and inspection of documents produced.

The case study method used in this way therefore made it possible to return to an experimental format for the research, where situations before and after the TPHC course could be compared.

2.2 Validity, bias and the researcher

Validity

The design outlined above would counter dangers to internal validity, as defined by Campbell and Stanley (1963, pp.171-246), in the following ways:

Table 2.2 Measures taken to counter dangers to internal validity, as recomended by Campbell and Stanley (1963)

danger to internal validity	compensating measures
• history (the influence of other events) • maturation (changes in the subject over time) • testing (the subject responding differently pre- and post-test) • instrumentation (pre- and post-test changes in instrument/ observers) • selection bias	• carefully teasing out relevant historical interfering factors • gaining an accurate view of the entire productive period in each case • only one occasion of 'testing', during which all data was gathered • the same instrument and observer were used • careful representative sampling, within practical constraints

In addition to these measures Yin (1989, p.27) recommends the following tactics to enhance validity in case study design: (Table 2.3). Most of these measures are therefore included in the design, execution and analysis of the present study. The validity of the research was enhanced accordingly.

Bias

Bias and validity are two sides of the same coin. Harris and Bell (1986, pp.40-69), in discussing evaluation research, describe the causes of 'bias of information': different world views; different approaches to collecting information; the way the instruments are constructed; the degree of rapport; and bias in recording, summarising and analysing. They advocate *triangulation* and *feedback* as the principal strategies in overcoming 'information bias'. They distinguish six kinds of triangulation:

1.	Methods - using different ones, with contrasting structures.	these are easier for small studies
2.	Time - mixing cross-sectional and longitudinal designs.	
3.	Investigators - using more than one.	
4.	Space - different classes and cultures.	
5.	Levels - examining individuals, groups and collectivities.	
6.	Theoretical - investigators using different theories.	

'Methods' and 'Space' triangulation are used in the present study, and are described above.

Table 2.3 Measures taken to enhance validity, as recommended by Yin (1989)

type of validity	meaning (McCormick and James, 1988, pp188-189)*	measures advocated	measures taken
construct validity	the research really focuses on what it purports to*	• using multiple sources of evidence • establishing a chain of evidence • having key informants review the draft report	• colleagues, practice, documents • determining each ex-student's entire 'educational story' • not done
internal validity	the soundness of explanation - whether a purported cause produces the expected effect*	• performing pattern matching • performing explanation building • performing time-series analysis	• similar patterns sought across cases • explanatory summary made for each case • not done
external validity	generalisability of the method and findings to other settings*	• using replication logic in multiple case studies	• similar patterns of causation repeatedly identified (Chapter 5)
reliability	the same results produced at different times, with different observers	• using a case study protocol • developing a case study database	• see Appendix 1 'Overall plan' • see Appendix 4, Section A4.2

Feedback, the control of accuracy of information by reviewing it with the subject, is termed 'talking through issues' by Mitchell and Slim (1991). This formed an important part of the interview strategy in this study. The information obtained was constantly checked with the respondents (for interviews); authors (for documents); and actors (for observations).

The researcher

The researcher got to know the 1992 version of the TPHC course thoroughly by taking part in all of it as a tutor. This insight needed to be expanded to include the versions of previous years, which was achieved by means of a lengthy interview with the tutor who largely developed the course. The researcher adopted three research stances for three aspects of the research (CARE, 1989, pp.1-8):

- *For determining the output due to the TPHC course*: an outsider being an 'expert and detached researcher'(with the insiders practising the activities being researched).
- *For understanding the process of the TPHC course*: an outsider being a 'participant-observer' (with the insiders providing their subjective interpretations of events).
- *For gaining insight into the factors influencing the output, as well as the process of 'entry'*: an outsider being a 'neutral broker' (with the insiders contributing personal perceptions and judgements).

The inevitability of the inclusion of personal presuppositions, concepts and values in the formulation of theories and selection of categories for interpretation makes the notion of a 'pure objectivity' problematical. Habermas (1972, p.314) argues that knowledge and interest cannot be separated - interest inevitably shapes the way in which new knowledge is constituted, in any situation where the nature of the phenomena being observed implies that self-reflection will be operating. On a practical level in the present study, the researcher's past experience in Primary Health Care and training made it possible for him to recognise a high quality curriculum 'produced' by an ex-student as a simple re-write of an existing World Health Organisation document. Equally, there are bound to be issues in which his *lack* of background would prejudice his ability to detect dissonance or fraudulent testimony. In reflecting on the process of evaluating continuing professional development programmes, Brigley *et al.* (1997) point out that the nature of the evaluation process depends on the opinions that the evaluators hold about the aims of the training process they are evaluating. - whether it is purely mechanistic training, or a deepening of professional 'knowledge-in-action' (Schön, 1983, pp.49-50).

The study was able to maximise the benefits of the researcher's insight and experience in Primary Health Care related training, by utilising his ability to perceive relevant activity and judge its quality. At the same time it attempted to minimise the possibility that his concepts and values would limit the validity of the findings, by accepting the existence of the problem; by adhering to the measures outlined earlier in this section; by structuring data collection; and by setting criteria for each set of decisions that had to be made in the course of data analysis.

2.3 Further methodological considerations

In this section a number of research ideas and techniques are presented, which informed the planning and execution of the present study:

- The case study methodology falls largely within what Cronbach *et al.* (1980, p.7) call the 'qualitative-naturalistic-descriptive' research paradigm. Instead of concentrating only on the 'instructional system', it adds to this the consideration of the 'learning milieu' (Hopkins, 1989, pp.23-24) - in other words, takes into account the relationship between the educational process and the system within which it operates. Good case studies are both descriptive and explanatory (Yin, 1989, p.15).

- The methodological difficulties presented by the present study (i.e. determining short-term and long-term output due to a training course) should not prevent the issue from being tackled at all. Mills (1959, pp.124-126) warns of the danger of what he calls 'abstracted empiricism' in research - where concern with the perfection of validity and methodological rectitude limits what may be investigated. A better approach is to focus on *what* to verify - the most productive features of an idea, and then try to verify those in the design. This Mills calls 'classical practice': investigating public and personal questions, in such a way as to clarify usefully the associations between the phenomena being investigated and the social structures within which they are embedded. Researchers have the obligation to uncover 'common sense' - truth - and point to actions which those in power could take to bring about improvements.

- The *ex post facto* research design starts with the effects of an intervention, and then goes on to seek the possible causes (Gay, 1981, pp.197-205). Peters *et al.* (1980) used a technique starting with a behaviour of interest, and then working backwards to identify situational variables relevant to that behaviour.

- In educational research in the UK more attention has recently begun to be given to a so-called biographical approach to research - concern with the teacher as a person (Maclure, 1993). One important reason is that it is a more holistic approach, with greater explanatory power - it has the potential for better elucidation of linkages between individual action and social structures. Objectively each teacher is embedded in a particular, distinctive community. There are two ways the researcher can approach this: by 'explaining' the subjects him/ herself, in terms of pre-determined categories; or by looking at the categories which the subjects choose in order to explain themselves (and these are not just related to the job).

- In describing research on decision making in clinical medicine Dowie and Elstein (1988, p.12) describe 'process tracing approaches', which emphasise close analysis of verbal reports to discover how decisions are actually made.

- Cronbach *et al.* (1980, p.221) make the point that the researcher is an historian. Being 'involved' is no obstacle - involvement always happens, and the lack of it

is no guarantee of objectivity. The dearth of insight resulting from keeping an over-scrupulous distance invariably leads to significant lack of insight; researchers have to use as many opportunities as possible. Schön (1983, pp.42-43) similarly describes the trade-off between 'rigour' and 'relevance': the majority of human problems are situated in the 'swampy lowland', where situations are messy and can only be tackled by forsaking technical hyper-rigour. In situations which are difficult for outsiders to grasp they should not come as 'critical outsiders' who do not explain - rather they should let the respondents know as much as possible about the research process, and enter into the struggle, so that both together try to get at the truth. In this way there is a greater chance of producing authenticity (Sanger, 1992[3]). Such an approach is likely to be particularly useful in a situation where there is a wide variety of respondents representing a wide variety of cultures.

- In discussing the assessment of learning French *et al.* (1988, pp.15-32) make a useful distinction between 'descriptive measurement' and 'normative measurement':
  1. In *descriptive measurement* numbers are used to represent qualitative aspects of a system. The numbers are read off on a scale, but the system determines the pointer's position. The observer's role is passive - limited to reading the value. S/he has no control over the position of the pointer.
  2. In *normative measurement* numbers are used to encode the observer's subjective feelings about the system. The scale however is a mental one, and judgements may change without the system changing. They change in order to be consistent with defined groups of behaviours which together form a model. The model and judgements mould each other until consistency is achieved.

  In the case of the present study a series of judgements had to be made: of how much performance is due to the course, of the quality of that performance and so on. These judgements were iterative, in the sense that deeper understanding gained through understanding more cases led to constant revision of previous judgements, in order to achieve consistency.

- A case study is not a method of collecting data-- rather it is a means of presenting data about a specific instance. It portrays a specific situation in order to illuminate principles of a more general nature (Yin, 1984, p.21).

- Case studies are not simply pre-experimental. The accumulation of case studies allows theory building, via tentative hypotheses culled from single instances. Generalisation is *about* the case, rather than *from* it. Generalisations produced in this way are no less legitimate when they are about the *instance*, rather than about the *class*. The ability to generalise from a case study depends on the way it is set up. If the case can be selected, that will predispose to generalisations about the class; if it is given, only case generalisations tend to be possible (Adelman *et al.*, 1980, pp.45-61).

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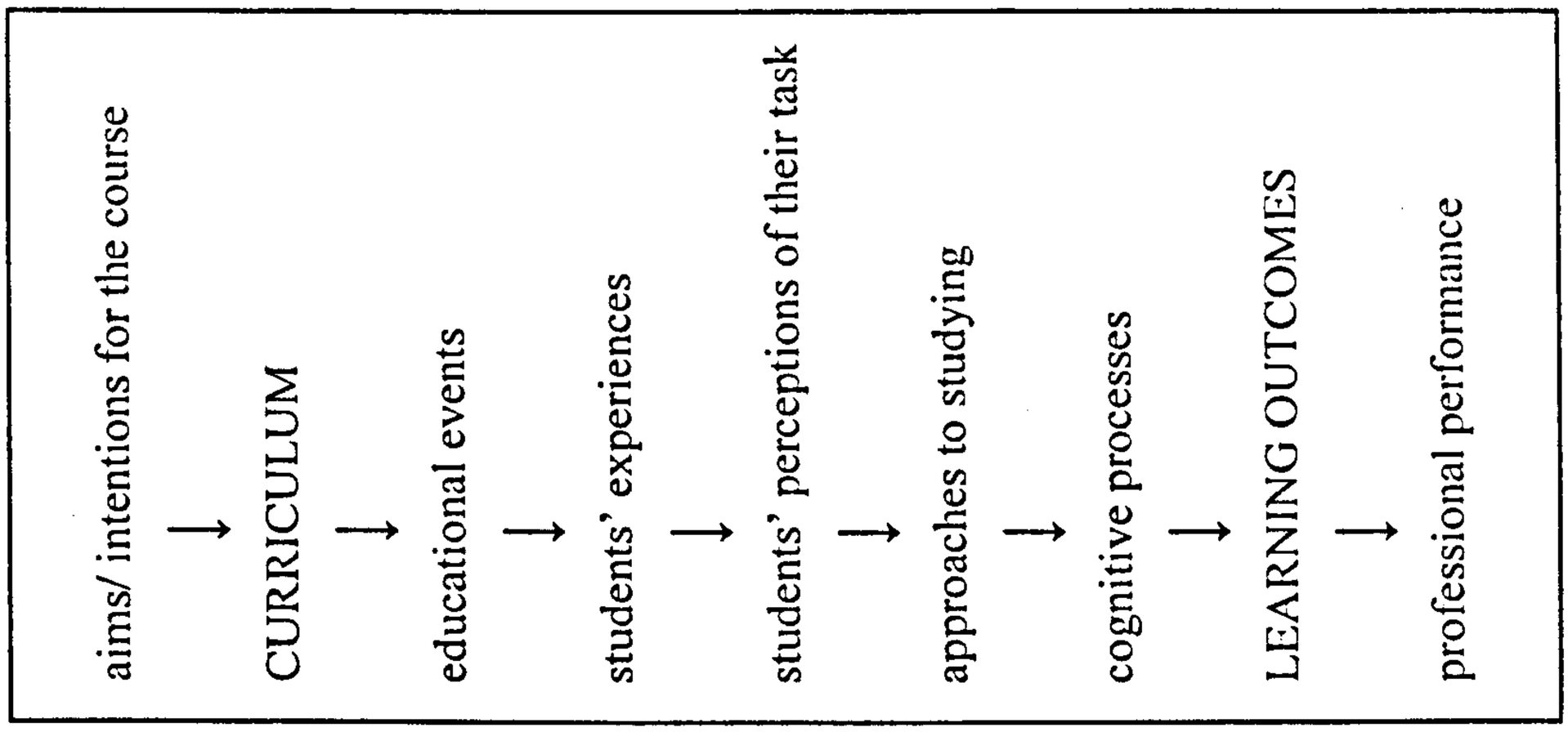
[3] Comment during plenary session at British Educational Research Association Conference, Stirling, Scotland, 1992

2.4 Modelling

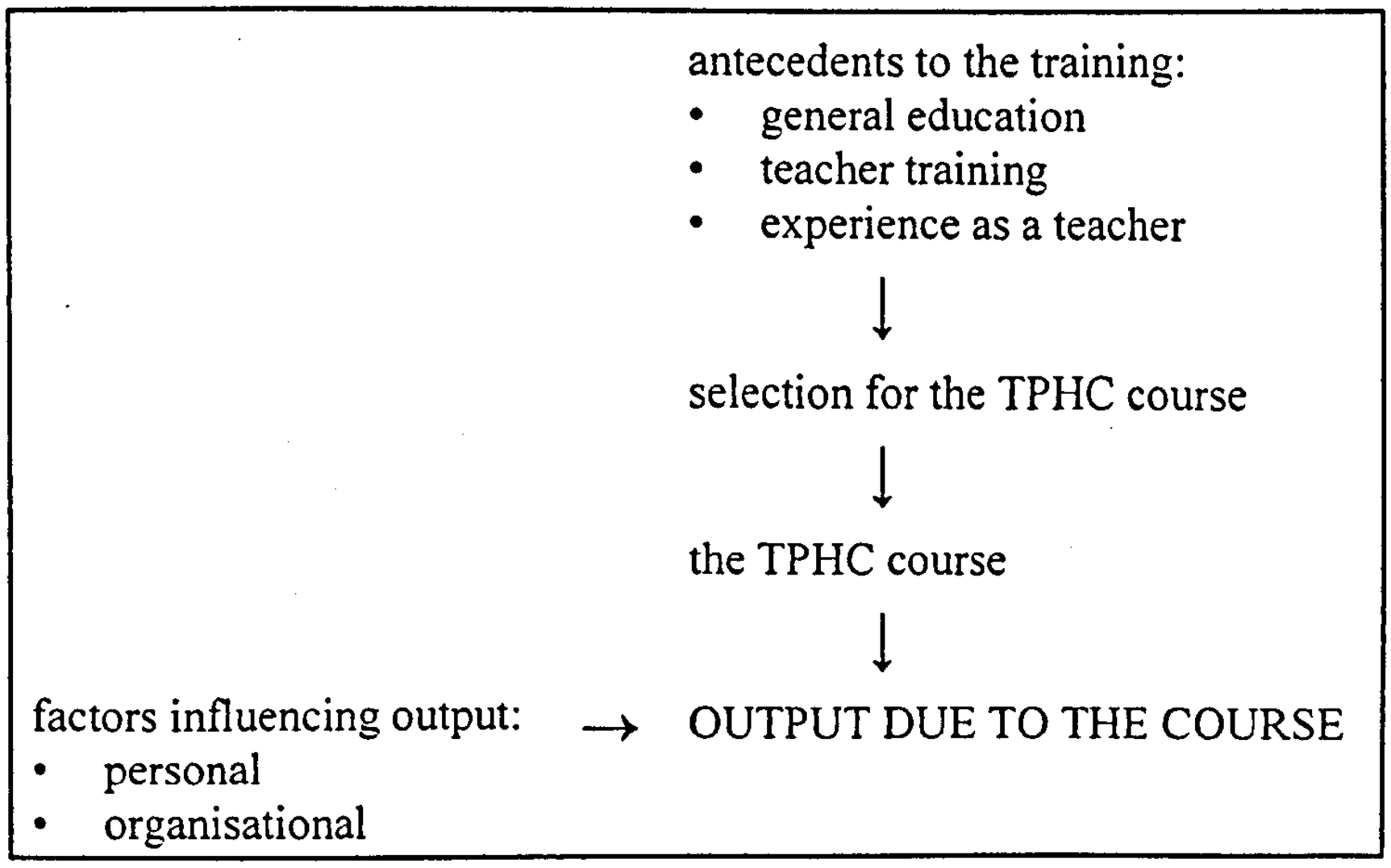
In order to come to grips with the process being evaluated it is usually necessary to model it. Coles (1985) models the learning process as follows - a student centred view:

Figure 2.2 Coles's (1985) model of the learning process



The present study clearly deals with the same overall process, but with emphasis on the relationship between the first and last steps. It is therefore modelled as follows:

Figure 2.3 Model of the processes under evaluation in the present study



It should be noted that information on ex-students' objective performance on the course was not available for the majority of cohorts. This aspect could therefore not be included in the analysis. Such evidence as was available did not point to any strong relationship between course achievement and output: ex-students who were known to have passed with great difficulty achieved large outputs [34, 65, 67, 85], whilst others who performed brilliantly in Liverpool produced low quality work [19, 68].

2.5 Markers/ indicators

Educational inputs make differences happen (Patton, 1982); in order to identify them they need to be reduced to markers or indicators. Yorke (1996, p.1) defines a performance indicator as 'a marker of the extent to which a particular purpose is being achieved: the purpose may be articulated at any number of levels, ranging from the sectoral to the personal'. This implies that it is necessary:

- To say what the various purposes are.
- To articulate the values underlying the purposes.
- To know what evidence will be taken as indications of good and poor performance.

In their model of competence Broadfoot and Squirrell (1992) offer a practical way forward. They analyse a broad area of activity into 'broad areas' of competence; then define each of these in terms of 'areas' of competence; and finally define each of these in terms of criteria. This logical stepwise description does not necessarily have to have three steps - it needs as many as will analyse the competence into usable markers.

It is important to realise that markers are an abstraction of the multi-dimensional outcomes to any education - they are limited, each contains its own biases, and it is better to include as many as is feasible and relevant in a study (Cronbach *et al.*, 1980, pp.279-280). The outcomes of instruction are always multi-dimensional and therefore inadequately described by studies that aggregate different types of performance into single test scores (Norris, 1990, p.45).

The markers that were extracted from the TPHC course content for the purposes of this study are given in Appendix 3 (Sections A3.1 and A3.4), and the process that gave rise to them is described in Chapter 3 (Sections 3.3 and 3.4).

2.6 Sampling

One of Miles and Huberman's (1984) tactics for ensuring the quality of basic data is 'checking for representativeness'. This can be done by:

- Increasing the number of cases.
- Looking purposefully for contrasting (negative, extreme, countervailing) cases.
- Sorting the cases systematically to fill out weakly sampled case types.
- Sampling randomly within the universe under study.

Any application of sampling logic to cases studies would be misplaced (Yin, 1989, pp.53-57). In multiple case studies cases should be selected according to replication logic, which is analogous to that of multiple experiments. There are two types of replication:

- *Literal* replication - cases are selected which produce similar results.
- *Theoretical* replication - cases are selected which produce contrary results, but which can be explained following the same reasoning.

In this case the main theory of the study is the output from the TPHC course. At the time of selecting cases it was not possible to know what the output of individual cases was. The only alternative was to attempt a sample which was representative of the whole, and in which it would be possible to select high and low performers subsequently. The final procedure for sampling is outlined below.

2.6.1 The study population

The TPHC course had been offered yearly since 1979. Up to the end of 1992 a total of 279 students had attended the course. This body of ex-students formed the study population. The particulars of this population are given in Section 2.6.7 below, where the characteristics of the actual sample are compared to those of the study population.

2.6.2 Decisions made about sampling

The aim was to select a group of ex-students who would represent the full variety of backgrounds and experiences of students who attend courses like TPHC, in more or less the same proportions - this in order to gain an understanding of the many processes and factors which together lead to a greater or lesser degree of application of what ex-students learnt:

- It was decided to select from all cohorts of ex-students, from 1979 to 1992 inclusive (the 1979 cohort was excluded later when it became clear that the nature of the course that year was different). The variety of experiences and situations would be greater in the larger group. The differences in passage of time between study and follow-up would clarify differences in output at various stages after returning to work. Inclusion of ex-students from earlier years would provide information about subsequent career development and the 'shelf life' of the course.

- It was decided to exclude certain countries and groups of countries from the sample:

Table 2.4 Reasons for excluding countries from the sample

country or group of countries excluded	reason for exclusion
Bolivia, Brazil, the Caribbean, Guyana, Kiribati, Papua New Guinea, Peru, Solomon Islands	small numbers of ex-students, widely scattered
Australia, Canada, France, Germany, Italy, the Netherlands, United Kingdom, U.S.A.	the course is primarily intended for developing countries.
Botswana, Brunei, Chad, China, Guinea, Indonesia, Jordan, Kampuchea, Namibia, Palestine, South Korea, Thailand, Uganda, Vietnam, Zimbabwe	only one or two ex-students in each: not time or cost effective
Angola, south-western Cameroon, Liberia, Somalia, Sri Lanka, the Sudan	civil war or considerable internal turmoil: unpredictability and danger
Nepal. Nigeria, the Philippines	difficult communications, ex-students widely scattered: not time and cost effective, unpredictability.

- It was decided to concentrate on countries or regions where there were clusters of ex-students. This would be more time and cost effective for the travelling researcher: since the exact whereabouts of the majority of ex-students was not known, the danger of travelling a long way and finding nobody at the other end would be less. There also was the impression (subsequently borne out) that responding ex-students would be able to help with the location of the non-responders in the same country. At the same time it was decided that the sample should contain some ex-students who work in isolation, and that both rural and urban settings should be visited.

2.6.3 Selecting the sample size

In selecting the number of cases for case studies, the rule of thumb is that the greater the numbers, the greater the certainty of validity and replicability of findings (Yin, 1989, p.57). In this study two considerations had to be balanced: the diversity of the study population, and the available time and finance:

- A distinguishing feature of the study population was its extreme diversity. Although they had a central interest, ex-students came from very widely differing backgrounds in terms of language and culture, basic and professional education, and work circumstances. This is in marked distinction to most of the other studies quoted where the student population is considerably more homogeneous. Under such circumstances a larger sample would be needed for clear identification of factors leading to positive outcomes, and themes describing the processes involved - the larger the better, in fact.

- On the other hand the practicalities of time and finance limited the time that could be spent on field work to six months. It was estimated at the start of the project that a minimum of two days would be required per ex-student: one for travel to that ex-student, and one for data collection with the ex-student. In addition some days would be lost due to weekends, public holidays and unforeseen circumstances. Accordingly a sample of 50-60 seemed realistic.

2.6.4 Constructing the sampling frame

A database of all the ex-students from 1979 to 1992 was drawn up, using information obtained from the school archives. The same course secretary had been handling student applications since the course's inception. She had kept systematic records, in the form of an individual folder for each student, and these were easy to retrieve from the university archives. The following headings or variables were included in the database:

Table 2.5 Variables included in the sampling database

heading/variable	explanation	reason for inclusion
name	latest available full name	identification of ex-student
address, telephone number, fax number	the latest available ones	communication with ex-student
funding body	group which funded the studies	tracing missing ex-students
country, nationality	where last known to be working	selecting countries to visit
study year		sampling variable
sex		sampling variable
birth date	to calculate 'age at admission'	sampling variable
profession	profession by training	sampling variable
workplace	at time of being sent on course	sampling variable
leadership	relative leadership position within the organisation	sampling variable
scale of project	local/ regional/ national/ international	sampling variable
nationality status	national or expatriate	sampling variable
employer	State or non-governmental organisation	sampling variable
contact maintained	whether ex-student remained in touch with Liverpool	sampling variable

Ex-students from the more recent groups, such as 1991 and 1992, were less likely to have changed their addresses, but for earlier years the information obtained in the files clearly had to be updated. The course organisers had tried to remain in touch with ex-students through a yearly ex-students' newsletter, and from the database they kept more recent information was obtained. At this stage it was finally only possible to have reasonable certainty of the addresses of 107 of the 279 ex-students.

For the rest a considerable amount of detective work had to be done, for ex-students who could reasonably be supposed to live in one of the countries that would not be excluded from the sample (the exception being expatriate ex-students: this group was found to be unstable and mobile, and many could theoretically be anywhere in the world). The following means were employed:

- Letters were written to ex-students at the last available address, explaining to them that a follow-up visit was being considered, and asking them to complete a short questionnaire about their present situation. They were also asked for information about the whereabouts of other ex-students from their country or region (Appendix 2, Section A2.2). An international reply-paid coupon and self-addressed envelope were included with the letter (except in cases were the ex-student would clearly be able to afford the postage). This was found to be an excellent move - many further addresses were confirmed.
- Individuals or organisations were approached, personally or in writing, to request information about ex-students:
  * organisations who had funded the ex-students for their study in Liverpool (the British Council, Save the Children Fund, the World Health Organisation etc.)
  * the ex-students' past employees (particularly useful for Pakistan)
  * students currently in Liverpool, attending other courses, but from the same countries as the 'missing' ex-students (particularly useful for Bhutan and India)
  * staff members of the School who were known to be working on projects in the countries concerned (particularly useful for Sierra Leone and Ghana).

In all of these measures the researcher had to be opportunistic, actively looking out for possible contacts of ex-students who had not yet been definitely located.

2.6.5 Drawing the sample

The countries remaining in the sampling frame were grouped in geographical areas, and allocations made to each to reach the desired total sample of 50-60 (about 25% of the total):

Table 2.6 Planned sample size

area	no. of ex-students	desired sample size
• West Africa	62	15 (24%)
• the rest of sub-Saharan Africa	69	17 (25%)
• South and East Asia	73	18 (25%)
• North Africa and the Middle East	18	5 (28%)
TOTAL	222	55 (25%)

In finally selecting countries and ex-students the following had to be considered:

- The need to achieve a sample representative in terms of the variables described above. This was especially attended to during the third and last trip, trying to make good deficiencies in representation in for example year groups and professions.
- The practicalities of making the actual visit. A map was drawn of each country left in the frame, using the best atlas available to pinpoint the known or presumed whereabouts of each ex-student.

The following countries and regions were finally selected:

Table 2.7 Countries/ *regions* selected for the sample

West Africa	The Gambia, Sierra Leone, Ghana
the rest of sub-Saharan Africa	Kenya, Tanzania, Zambia, Malawi, Lesotho, *Natal*
South and East Asia	*Uttar Pradesh, Orissa*, Bhutan, *Dhaka*, Malaysia, Pakistan
North Africa/ Middle East	Yemen*

* the proposed visit to Yemen had to be cancelled at the last minute due to civil war

At this stage contact had been established with 52 ex-students in these countries, while the whereabouts of 58 had not been confirmed. Once a country or region had been selected, it was decided to try to visit all ex-students who could be contacted, to avoid bias in the selection. The situation developed as follows:

- The situation in West Africa was almost ideal - local contacts volunteered to locate non-respondents and even to help plan the visit.
- In East, Central and Southern Africa the situation was completely uncertain; the number of ex-students definitely located fell well short of the desired sample size. For this reason relatively many countries were selected. In the event it was found that many non-responders not only received the correspondence but were actually awaiting the visit, while others who had changed their addresses could be traced without too much difficulty once the researcher was in the country. The sample from this area therefore turned out to be relatively large.

- The lesson of easy tracing of non-responders was applied in planning for the visit to Asia. A sample of 20% confirmed appointments could be expected to translate into a 30% actual sample, which was in fact what happened.

It is useful at this stage to document some of the reasons why ex-students in the countries visited could not be traced:

- Most commonly the ex-student had moved (11), often to another country (9).
- Some knew the researcher was around in their city/ town/ area, but due to other commitments could not (or would not) meet him (6).
- Some were very ill (3).

2.6.6 Final composition of the sample

Of the total of 279 ex-students, 87 were finally visited (31,2%) - larger than the 25% originally intended. Each of the ex-students in the final sample was allocated a unique master number (between 1 and 87), which will henceforth be used in this text, to maintain confidentiality. Information from a particular ex-student will be identified by her/ his master number in square brackets - for example [28].

The composition of the final sample resembled that of the study population in some ways, but was deficient in others, as is shown by the tables following. These tables also indicate the nature of the study population, with respect to the variables under consideration.

Good representation

This was achieved with respect to 'sex', 'employer' and 'contact maintained':

Table 2.8 Distribution of 'sex' in study population and sample

	study population		sample	
sex	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• male	141	51%	42	30%
• female	138	49%	45	33%
	279	100%	87	31%

The study population is made up of equal numbers of men and women.

Table 2.9 Distribution of 'employer' in study population and sample

	study population		sample	
employer	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• State/ bilateral programmes	196	70%	63	32%
• Non-gov'tal organisation	83	30%	24	29%
	279	100%	87	31%

State employees predominate in the study population.

Table 2.10 Distribution of 'contact maintained' in study population and sample

	study population		sample	
contact maintained	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• in touch	107	38%	35	33%
• lost touch	168	60%	52	31%
• died	4	1%	0	0%
	279	100%	87	31%

About a third of all ex-students had stayed in touch with the TPHC course office in Liverpool.

Reasonable representation

This was achieved with respect to 'age at admission', 'workplace', 'leadership', and 'scale of project':

Table 2.11 Distribution of 'age at admission' in study population and sample

	study population		sample	
age at admission (years)	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• 20 - 24	1	0%	0	0%
• 25 - 29	34	12%	8	24%
• 30 - 34	77	26%	25	32%
• 35 - 39	53	19%	17	32%
• 40 - 44	49	18%	18	37%
• 45 - 49	43	15%	16	37%
• 50 and over	15	5%	3	20%
• not known	7	3%	0	0%
	279	100%	87	31%

In the study population there is a more or less normal age distribution around the 30-34 year group. The sample contains too few members of the younger and oldest age groups.

Table 2.12 Distribution of 'workplace' in study population and sample*

	study population		sample	
workplace	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• office: mostly administration	36	13%	11	31%
• in an institution	120	43%	37	31%
• mostly in the community	58	21%	17	29%
• institution and community	30	11%	16	53%
• other	35	13%	6	17%
	279	100%	87	31%

* 'workplace' means 'workplace at the time of admission' for study population and sample

Most ex-students in the study population were institution based. The sample had rather too many of the 'institution and community' group.

Table 2.13 Distribution of 'leadership' in study population and sample*

	study population		sample	
leadership	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• few leadership opportunities	108	39%	32	30%
• middle management	114	41%	44	39%
• high leadership position	44	16%	11	25%
• not clear	13	5%	0	0%
	279	100%	87	31%

* 'leadership' means 'leadership at the time of admission' for study population and sample

The population contained more or less equal numbers of ex-students in middle management or lower positions, and relatively few in higher leadership positions. The sample contained rather too few of the latter.

Table 2.14 Distribution of 'scale of project' in study population and sample

	study population		sample	
scale of project	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• local only	73	26%	17	23%
• regional	128	46%	42	33%
• national	59	21%	27	46%
• international	4	1%	1	25%
• not clear	15	5%	0	0%
	279	100%	87	31%

About half of the ex-students worked in programmes with a regional impact. The sample contained rather too few working in local and national programmes.

Unsatisfactory representation

There were larger deficiencies in the sample with respect to 'geographical area', 'year of study' (although this is improved if the years are grouped), 'profession', and 'nationality status':

Table 2.15 Distribution of 'geographical area' in study population and sample

	study population		sample	
geographical area*	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• West Africa	62	28%	23	37%
• the rest of sub-Saharan Africa	69	31%	39	57%
• North Africa/ the Middle East	18	8%	0	0%
• the rest of Asia	73	33%	25	34%
	222	100%	87	31%

* only areas considered for the sampling are included here

The reasons for the high number sampled in sub-Saharan Africa, and the failure in North Africa and the Middle East, are explained in Section 2.6.5 above.

Table 2.16 Distribution of 'year of study' in study population and sample

	study population				sample			
year of study	no.	% of study pop.	no.	% of study pop.	no.	% of study pop.	no.	% of study pop.
1979	14	5.0%			0	0%		
1980	23	8.2%	60	22%	4	17%	9	15%
1981	23	8.2%			5	22%		
1982	21	7.5%			7	33%		
1983	20	7.2%	60	22%	8	40%	19	32%
1984	19	6.8%			4	21%		
1985	17	6.1%			10	59%		
1986	23	8.2%	61	22%	7	30%	20	33%
1987	21	7.5%			3	14%		
1988	21	7.5%			6	29%		
1989	20	7.2%	61	22%	4	20%	19	31%
1990	20	7.2%			9	45%		
1991	16	5.7%	37	13%	9	56%	20	54%
1992	21	7.5%			11	52%		
	279	100%	279	100%	87	31%	87	31%

The distribution of the sample is generally not representative in respect of the year groups. The relatively high numbers of ex-students from recent years cannot be explained, since virtually all ex-students were eventually traced in each country. The year group that is particularly poorly represented (1987) is a useful example of the difficulty in planning for a representative sample - two ex-students from this cohort were not seen because the Yemen visit had to be called off when a civil war flared up.

Table 2.17 Distribution of 'profession' in study population and sample

	study population		sample	
profession	no.	% of study pop.	no.	% of study pop.
• nurse	122	44%	45	37%
• doctor	54	19%	6	11%
• medical assistant	39	14%	15	38%
• health inspector	20	7%	8	40%
• teacher	11	4%	4	36%
• health assistant	9	3%	3	33%
• other	24	9%	6	25%
	279	100%	87	31%

The majority in the population were nurses. The sample is short of doctors. The reason most likely for this is that the doctors were concentrated in two groups that were not visited: countries like Egypt, Sri Lanka, the Philippines, and rural Bangladesh; and European and North American expatriates working in their home countries.

Table 2.18 Distribution of 'nationality status' in study population and sample

	study population		sample	
nationality status*	**no.**	**% of study pop.**	**no.**	**% of study pop.**
• native of developing country working there†	221	87%	80	36%
• expatriate working in a developing country	24	9%	6	25%
• refugee	8	3%	1	13%
	253	100%	87	31%

* excluding natives of Europe or North America working in their home countries

† includes those born in a neighbouring country, who moved to a new one of their own volition

Expatriates were relatively few in the population. There is a shortage of especially refugees in the sample.

In summary

Considering the practical problems inherent in sampling this particular population, a fair result was obtained. The final sample does cover a wide range of different situations, experiences and outcomes, which was one of the guiding principles in deciding how to draw it. Considering the practical constraints it is difficult to see how it could have been improved upon. The major defect is the relative over-representation of sub-Saharan Africa, and under-representation of North Africa/ the Middle East.

2.7 Data collection instruments

Case studies are eclectic in their use of data collection instruments (Adelman *et al.*, 1980, pp.45-61). In designing the instruments Stake's (1977, pp.146-155) principle of *congruence* was taken into account:

Table 2.19 Application of Stake's (1977) principle of congruence

requirement	its use in this study
congruence between intents and observations at three levels: • antecedents • transactions • outcomes	• the intention was to clarify the pre-course situation, the TPHC experience, and the subsequent events • the main instrument (the interview) focuses in turn on each of these, with the other instruments reinforcing observation of one or more level

Similarly the need for triangulation was paramount - a variety of sources and instruments, making it possible to validate data. The following instruments were accordingly used in the present study:

2.7.1 Interview

The principal data collection instrument of this study was a lengthy, semi-structured interview - the 'focused' interview described by Hopkins (1989, pp.60-62), administered to the ex-students, their colleagues, their superiors, and one of their tutors (see Appendix 1 for interview guides). Focused interviews are used when the situation of persons interviewed is reasonably well known, and when hypothetically significant elements and patterns of this situation have been previously analysed by the interviewer. The interview guide is therefore structured on the basis of these hypotheses; the interview elicits the subjective experiences of persons in this situation, in order to test existing hypotheses while being open to new ones. The present schedule contained mainly semi-structured questions (i.e. stimulus structured, response unstructured) - it was open to any response, even one which had nothing to do with the area broadly dealt with by that question. There were also a few structured questions (e.g. details of personal particulars).

Interview was chosen as a data collection instrument, because much of the information needed for each case study was in the form of people's knowledge of past events. In this way much information could be obtained in a short time; the interviewer could draw out issues of real importance to speaker; and reading or language problems could be clarified - absolutely crucial in this research. They were however very time-consuming, and the interviewer had to be on guard against influencing the information unduly (Harris *et al.*, 1981, 2.1.1/11).

The interview puts people at the heart of evaluation (MacDonald, 1991, p.22). It is as well to remember that all interviews are to a degree structured by the values and intentions of the interviewer. There are two distinct groups of interviews:

- Those aimed at *information retrieval*. The interviewer does not know, but the person being interviewed does - and the interviewer has to gain access to the information. The focus is on the project rather than on the individual. This type of interview can be a kind of combat - 'getting the information out of them.'
- Those aimed at *developing learning*. The interviewer assumes that the person being interviewed probably doesn't know either, so s/he has to set up a kind of learning situation - trying to get the person being interviewed to get out of their habitual role, sit back, look at their situation, and evaluate it.

Both of these roles were included in this interview - the first to find out what happened, the second to work out why.

Mitchell and Slim (1991), discussing rapid rural appraisal in Africa, point out the need for 'talking through issues' during interviews, together with 'better hearing and more open-minded listening.' Many of the TPHC ex-students were from rural and relatively unsophisticated communities, or worked among them. Almost always there were large cultural differences between the researcher and the ex-students. The Western tendency to rush an interview towards a succinct conclusion - 'nutshelling' - is foreign and threatening to people from cultures which are more accustomed to dialogue. A further problem is the Western researcher's insistence on an answer - any answer - for issues which may be very complex to the respondent, or laden with emotional connotations or even pain. Unless time is given to work through the answer, and there is clear evidence of an open and empathetic attitude, an 'I don't know' type of response is likely. These dangers were noted and guarded against during the interviews.

2.7.2 Other instruments used

Document analysis

Soon after meeting for the first time ex-students were given a list of documents that the researcher would like to examine. When these were supplied they were examined according to a checklist. Hopkins (1989, pp.62-63) clarifies the reasons for examining relevant documentation in evaluation. They can provide a historical perspective; they indicate areas for inquiry and more intensive investigation; and they expose aspects that would otherwise be missed. The examination must be rigorous, and subject to a checklist.

Observation of teaching

Wherever possible the researcher observed the ex-student at work teaching. An observation sheet, modelled on the one that was used for micro-teaching on the TPHC course, was used. Schedules prepared by Albanese *et al.* (1991) and Baggott (1987) were also consulted.

All the data collection instruments that were used in the study are given in Appendix 1.

2.7.3 Data recording

All data were recorded manually, using the detailed numbering system of the instruments to head each group of data.

The interviews produced two kinds of information:

- Particular factual information. This was recorded in key words carrying the full import of what was said, checking immediately with the respondent for accuracy.
- Descriptions/ expressions of opinions and feelings about processes. These were recorded in full in writing, requesting a pause in the interview to do so, and checking what was recorded immediately with the respondent for accuracy.

For the first interviews (in the Gambia) recording of interviews was tried. However this became impossible to sustain for the following reasons: inability to replace batteries which went flat after lengthy interviews (up to 6 hours per case); lack of electricity supply up-country; and confounding background noise where interviews had to take place for example in vehicles *en route* to the next destination.

Data were entered into a computer database (Idealist software) as soon as possible: in the evenings, or in Liverpool immediately upon returning.

2.8 Planning and undertaking the visits

Once a decision had been taken about which countries to visit, the visits themselves had to be planned. This involved:

- Making a realistic timetable.
- Informing ex-students and their supervisors (those who had responded. and those whom it was believed were in the country) of the coming visit - sending the timetable, as well as instructions for preparations for the visit (see Appendix 2).
- Making the necessary practical arrangements for the researcher's transport, funds, accommodation and health.

2.8.1 The timetable

Each ex-student received a detailed timetable (see the example in Appendix 2, Section A2.5). S/he was informed that it might not be possible to keep exactly to the timetable, in view of probable travel problems in isolated areas. All visits were planned for times when there should not normally be student holidays - March to June, 1993 and 1994. Public and religious holidays were also taken into account.

Although all ex-students were supposed to have received the same instructions, their level of preparation differed a lot:

Table 2.20 Preparation by ex-students for visit by researcher

	no. (%)
• prepared well, relevant	26 (30%)
• prepared well, much not relevant	5 (6%)
• had prepared, timetable changed	4 (5%)
• prepared a little	12 (14%)
• no preparation evident	40 (46%)
• TOTAL	87 (100%)

The fact that ex-students were informed beforehand of the coming visit had both a positive and negative effect on validity:

- Some ex-students prepared programmes that enabled the researcher to collect the maximum amount of relevant information in the time available [3, 11, 20, 76]. There was however the possibility here that the information could have been orchestrated to some degree (although triangulation of so many sources tends to rule this out, or to compensate for it).
- Some ex-students prepared programmes that committed the researcher to activities that were of little or no help in collecting relevant information [32, 37, 78]. This cut down the time available for meaningful data collection.
- Some ex-students did not receive the preparatory letters and only became aware of the impending visit when they were physically traced by the researcher. In such cases there was no time for them to arrange a programme for the researcher,

which meant that some sources of information were missed [43, 57, 84]. On the other hand there was less time to orchestrate evidence.

- One ex-student said the impending visit had pushed her to complete writing a curriculum that she had started but never finished [86].

2.8.2 Practical arrangements

Air travel between and within countries was easy to arrange in advance. Once in a country road transport became more problematical, since the ex-students worked in a variety of places, often in fairly isolated rural areas. In a few countries local contacts arranged all or most of the transport, and even supplied it (The Gambia, Sierra Leone, Orissa, Bhutan). In all the others the ex-students were of great help in advising how to get to their place of work, and to move from there to the next one - often arranging lifts for the researcher in the process. In a few cases the researcher was entirely on his own (especially Zambia) and had to make travel arrangements opportunistically. In a few cases he fell a day behind (Kenya, Zambia, Tanzania), due to breakdowns in local transport schedules and one episode of illness.

Accommodation was less of a problem The ex-students were asked to book or arrange a suitable place, which they in most cases did admirably. Where they had not yet responded and still needed to be looked for, the researcher had to cope as best he could - again asking advice from ex-students at the site he was about to leave. He had also prepared himself by obtaining particulars of suitable accommodation from colleagues in the United Kingdom, who had worked in those countries he was about to visit.

The thoroughness of preparation paid dividends. All the planned visits took place more or less on schedule, and a number of ex-students who had not responded to the correspondence were located (usually with the help of other ex-students, or by following a telephone trail) once the researcher reached the country (Sierra Leone, Ghana, Tanzania, Zambia, Malawi, Lesotho, Pakistan). In one case an ex-student who was missed on the initial trip was visited when the researcher subsequently visited her country on another errand.

The rather problematical arrangements affected the research in two ways:

- Arriving late, and missing elements of data collection programmes which had been arranged by the ex-students.
- Having too little time to interact with an ex-student and her/ his situation, or having that interaction at inconvenient times (at night, on weekends) or places (at railway stations and airports, in LandRovers on bumpy rural roads).

The three trips were physically and emotionally exhausting - particularly the uncertainty of travel arrangements, finding safe accommodation and food (often arriving in strange places late at night), and the constant need to be pro-active in making arrangements and finding ex-students against a tight schedule. On the other hand the exercise was immensely rewarding - the insights gained, the situations experienced, the beauty and interest of places visited.

2.8.3 The cost of the evaluation

The evaluation was funded by the then Overseas Development Administration (ODA) of the United Kingdom, through the 'Policy and practice of Primary Health Care' work programme of the Liverpool School of Tropical Medicine. Funding was needed for:

- *The researcher's salary for 12 months*
  Time was needed to undertake a number of tasks:
  * 2 months: Literature search, writing the protocol, setting up the sample, planning the visits.
  * 6 months: Data collection - the three visits.
  * 4 months: Data analysis and report writing. This is an estimate of what would have happened under normal circumstances - the actual time spent was longer, since the report had to be written at PhD level. The actual cost of this period to the work programme was much less, since the researcher was no longer working in the ODA funded work programme when the bulk of the report was being written.
- *Travel and subsistence*
  * Three round trips in Africa and Asia by air, for data collection.
  * Accommodation, subsistence and local transport (road and rail) for 180 days.
- *Miscellaneous expenses*
  * Arranging the trips: postage, telephone.
  * Equipment: lap-top computer.

It was calculated that under normal research circumstances (i.e. not at PhD level) the following expenses would have been incurred:

Table 2.21 Estimates cost of the TPHC follow-up evaluation exercise*

• research assistant's salary package for one year	£ 18,000	65%
• air travel: West Africa £ 700, East/ Central/ Southern Africa £ 1,000, Asia £ 1,200	£ 2,900	11%
• local transport, subsistence, accommodation: £ 30 per day, 80 days	£ 5,400	20%
• miscellaneous expenses	£ 1,200	4%
• TOTAL	£ 27,500	100%

* 1994 rates - would have been cheaper in 1992

It is useful to compare this amount to the following:

- *The course fees paid by the 279 students in the sample*
  The average fee for the period 1979 to 1992 was £ 2 200 (gradually increasing from £ 1,900 in 1981 to £ 2,800 in 1994). The total fees paid by the 279 students amounted to £ 613,800.

  The follow-up evaluation therefore cost approximately 4.5% of the fees paid for the students in the sampling frame.

- *The cost of running the TPHC course*
  According to a 1994 calculation the fees provided by ten students covered all costs for running the course (tutor salaries, teaching space, stationery, telephone, transport and accommodation for visits). The average student number through the years was 20 (279 students in 14 years).

  The follow-up evaluation therefore cost approximately 9% of the cost of running the courses for all the students in the sampling frame.

2.8.4 Unexpected consequences of the visits

Some ex-students mentioned that the visit had raised their profile in their organisations [49]. There were no instances where colleagues or superiors objected or obstructed the visit - they appeared to consider it a worth-while exercise (although several said it should have happened earlier). In one case a superior said he was too busy to be interviewed [50]. There was probably a lot of anxiety about the impending visit, on the part of the ex-students; one confessed that she had been worried: 'What's he going to think of me and my stupid little outfit?' [86]; in three other cases the ex-students were frankly aggressive [16, 34, 53]. In some cases the visit appears to have been therapeutic (Gunesekera 1989) - an opportunity to talk someone about hopes, fear, successes, failures: three ex-students wept when recounting their frustrations [23, 65, 67]. Another reported that 'I really enjoyed it - thank you very much. The questions you asked made it as if the course was one year ago, not ten!' [61].

2.9 Data analysis

The detailed process of data analysis is described in each of the chapters dealing with the findings of the study:

- Determining output due to the course: Chapter 3
- Determining the processes involved in 'entry': Chapter 4
- Determining factors influencing output: Chapter 5.

Some general principles regarding the method of qualitative analysis followed are given below.

For the qualitative data analysis a standard process was used, summarised by Hopkins (1989, pp.67-72) as follows:

Table 2.22 The process of qualitative data analysis (Hopkins, 1989)

stage	description	its use in this study
stage 0	anticipation: delimiting area of study; tentative study questions	semi-structured instrument, open-ended questions; nature of 'entry' and factors unclear at the start
stage 1	immersion in data, and generation of hypotheses/ categories	entering data into the database; numerous readings; writing case summary; extracting quotes
stage 2	validating the categories, by means of: I saturation: a category/ hypothesis is checked repeatedly against data; discarded, modified, finally accepted II triangulation	 I establishing manifestations of factors (Chapters 4 and 5) II different instruments and sources
stage 3	organisation, interpretation of categories: III incorporating categories/ hypotheses into a model which illuminates the area of enquiry IV validating the model: searching for rival explanations and negative cases	 III larger groupings, roughly according with those in the literature IV explanations for real and zero outputs developed to be logically consistent
stage 4	presenting a theory or conclusions for action (i.e. change or development)	comparing with the findings of others; describing implications (Chapter 6)

Stake (1977, pp.146-155) points to the need for *contingency* in the process of analysis:

Table 2.23 Application of Stake's (1977) principle of contingency

requirement	its use in this study
contingencies among antecedents, transactions and outcomes	each story had to link the pre-course situation, the TPHC course experience, and the subsequent events in a logical way

Sanger (1994) points to the inevitable need for creativity in qualitative data analysis, if the concept of 'grounded theory' is to have any meaning - invoking the 'research imagination', to produce understanding which can make a difference. Miles and Huberman (1984) describe the tactics for generating meaning from the data on a spectrum from concrete to conceptual/ abstract. Their use in the current study is given below:

Table 2.24 Use of Miles and Huberman's (1984) tactics for generating meaning

tactic	its use in the study
to see 'what's there': counting	used in analysing factors affecting 'entry' and output, to gauge relative strengths
to see 'what goes with what': noting patterns and themes; seeing plausibility; clustering; making metaphors	deciding on the initial groupings of factors; finding the three metaphors 'motivation', 'communication' and 'organisation' for 'entry'
to differentiate: splitting variables	subdividing factors into their 'manifestations', as directed by the data
to see things and relationships more abstractly: subsuming particulars into the general; factoring; noting relationships between variables; finding intervening variables	relationships noted between factors governing output; detailed effects on output condensed into manifestations; factor 'background' found to intervene before 'self-efficacy'
to assemble understanding: building a logical chain of evidence; making conceptual coherence	case summaries at the case level Chapter 6 at the level of the whole course

They similarly describe tactics for testing/ confirming findings (Miles and Huberman, 1984). Their use in the study is given below:

Table 2.25 Use of Miles and Huberman's (1984) tactics for testing findings

tactic	its use in the study
assuring the quality of the basic data at hand: checking for representativeness; checking for researcher-site effects; triangulating; weighing the evidence	careful sampling; triangulation of sources and methods; only corroborated output evidence accepted
looking at differences within the data set: making contrasts/ comparisons; checking the meaning of outliers; using extreme cases	contrasting factors operating in three output groups (Table 3.4); integrating 'zero output' cases into findings
pushing a conclusion to see if it holds up: ruling out spurious relations; replicating a finding in another case; checking out rival explanations; looking for negative evidence	maximising pre-course quality (Table 3.7); only counting explicitly operating factors; searching for alternative inspirations for each real output

2.10 Examples of outcome evaluations in the literature

Different ways of approaching these issues of design and method are illustrated in the examples of evaluation studies given below. They are divided into two groups: those that use follow-up (i.e. an actual physical visit to the trainees' workplace) and those that do not.

2.10.1 Studies without follow-up

These are summarised in Table 2.27. The following are common characteristics of these studies:

Table 2.26 Characteristics of studies not using follow-up

type of training	most of the studies concern short courses, with specific and limited subject matter - usually post-basic refresher courses
timing	the interval between training and evaluation is usually short
design	pre- and post-tests are often used
instruments	questionnaires (usually mailed) are most often used - also tape and video recordings
data collected	the information sought deals with perceptions of relevance of course content; the ability to apply course content in the work situation; self-reported increased knowledge levels
strengths	cheap; methodologically simple
weaknesses	low return rates of questionnaires; attempting to measure performance without observation; no control group; little triangulation to confirm accuracy of data; short-term impact is mostly measured

2.10.2 Studies where follow-up was used

Interestingly most of the studies that could be traced concern educational programmes in developing countries. They are summarised in Table 2.29. Their common characteristics are given in Table 2.28 below.

Table 2.28 Characteristics of studies using follow-up

type of training	there are equal proportions of long and short courses in the group
timing	the interval between training and evaluation is longer
design	weak: the pre-course level of performance is usually not assessed; usually no control group
instruments	a variety: interview (of trainees and others); questionnaires; observation of practice; assessment of products of work
data collected	the nature, quantity and quality of actual work being done, which could be ascribed to the influence of the training
strengths	using a variety of information sources in a study; using multiple instruments in a study; higher validity (assessing performance by observing it)
weaknesses	higher cost; failure to determine a baseline

2.10.3 The place of the present study

Comparison of the present study with the above-mentioned ones reveals the following unique features in the present study:

- Use of the multiple case study methodology to clarify the entire process of going to an overseas training course: the antecedents, the course itself, the events following.
- A sample from many different cohorts, in order to determine immediate, medium term and long term effects.
- The construction of a 'phantom control' (Burgoyne and Stuart, 1977) against which to measure subsequent achievement.
- Determining output due to training: the product of amount and quality, rather than just the presence or absence of particular activities or skills, or relevance of course content.
- Detailed study (quantitative and qualitative) of the process of 'entry', and its relationship to output.
- Detailed study (quantitative and qualitative) of the factors affecting output.

Table 2.27 Studies assessing output resulting from training, not using follow-up visits

authors	course duration/ target group/ subject	methodology	strengths/ weaknesses
Whitehouse (1997) - UK	• 6 days; plus 1 day 6 months later • for medical consultants • on methods of teaching	• after 10 months • postal questionnaire (methods used/ not; reasons for not using)	• 'use' not quantified • self-reporting • good response rate
Boswell *et al.* (1996) - USA	• 30 hour course • for nurses • to train others to do effective patient teaching	• pre-course and post-course • audiotapes of patient education session (analysis with checklist)	• self-taping could mean 'best case' selection • short-term effect
Carpenter (1995) - UK	• semester course • for final year medical and nursing students • inter-professional training	• pre- and post-programme • questionnaires (attitude, knowledge self-ratings, additional qualitative data)	• low validity - self-reporting • short-term
O'Hara *et al.* (1996) - USA	• 2 day programme • for mental health care professionals • handling depression	• months later • mailed questionnaire (relevance, increased knowledge/ ability/ awareness)	• low validity • low response rate
Edwards *et al.* (1986) - USA	• short course • for medical residents • general teaching skills	• pre-course, after 1 year, after 2 years • self-ratings by trainees • questionnaires to trainees • student ratings	• low response rates • student response rates too low • multiple sources of information
Evans *et al.* (1990) - UK	• short course • for health service doctors/ managers • training skills	• 1 year later • questionnaire (views on applicability of course material)	• limited validity

Campbell and Macdonald (1995) - Scotland	• long course • for health visitors • to change to modern style of practice)	• 12 months later • questionnaire (implementation of new concept, key elements of practice)	• low validity
Shtarkshall *et al.* (1993) - Israel	• 3 day workshop with follow-up sessions • for veteran immigrants • AIDS health education	• pre- and post-test • written questionnaire (knowledge, attitudes) • observation of practice • ongoing afterwards: self-reporting of activities, problems	• short-term only • more than one instrument
Reinke (1991, pp.1-9) - USA	• 1 year course • medical doctors • masters in public health	• 1-2 years later • mailed questionnaire (relevance, usefulness, suggestions)	• low returns • low validity
Gask *et al.* (1991) - UK	• series of workshops • for GP trainers • teaching problem based interviewing	• with control group • videotape (analysis with rating scale)	• strong design

Table 2.29 Studies assessing output resulting from training, using follow-up visits

authors	course duration/ target group/ subject	methodology	strengths/ weaknesses
O'Connor *et al.* (1990) - USA	• two sessions - with manual, ongoing tutor support • for nurses • better patient education	• pre- and post-test • interviews with patients • observations • questionnaires to trainees	• short-term effect only • multiple instruments
Santi *et al.* (1992) - Canada	• short course • nurses and teachers • teaching high school students about smoking	• shortly after course • questionnaire (former experience and practice) • trained observation of teaching	• short-term effect only • taking background into account • multiple instruments
Kaseje *et al.* (1987) - Kenya	• long course • for community health workers • Primary Health Care	• 2 years after course • post-test (knowledge) • observation of village households • interviews with villagers	• situation before intervention not ascertained • multiple instruments
College of Education (1991, pp.1-5) - Philippines	• four weeks • for trainer teachers • music, health, social studies	• 16 months later • interviews: trainees and their pupils • observation: trainees and their pupils • trainee questionnaire self-ratings	• multiple instruments
Ayele *et al.* (1993) - Ethiopia	• short course (with supervision) • for community health workers • Primary Health Care	• case control study • criteria established • monthly self-reporting by trainee • monthly reporting by supervisor	• high validity

Edgington *et al.* (1991, pp.1-4) - South Africa	• 1 year • nurse tutors • teaching skills	• at varying intervals after training • interviews with tutors • examining products of work • observing teaching sessions • mailed questionnaires	• variety of sources and instruments
Mousseau-Gershman (1982, pp.19-46) - UK	• 1 year course • for experienced health workers • masters in community health	• 3-5 years later • questionnaire to all • visit to a sample: interview	• only one instrument used during visit
Finnstam *et al.* (1988) - Pakistan	• 3 months course • community rehabilitation volunteers • basic rehabilitation	• 1-2 years later • interview for trainees and families • observation of trainees	• multiple instruments and sources
Steyn *et al.* (1991) - South Africa	• 2 year course • community nurses • community based health programmes with community health workers	• 3-6 years later • case-control design - sample • interview with trainees, superiors, trainees' students, families in the community • observation of trainees and families in the community	• multiple instruments
Mathews *et al.* (1991, pp.4-18) - South Africa	• course about 1 year • community health workers • health education and basic curative services in the community	• 5 years later • interview with families in care of community health workers	• participatory research, part of a development exercise • one instrument only used • no baseline data

2.11 Ethical considerations

Kemmis and McTaggart (1981, pp.43-44) have formulated criteria for ethical educational evaluation research. These are given below, together with the steps taken to comply with them:

Table 2.30 Adherence to criteria for ethical evaluation research (Kemmis and McTaggart, 1981)

criterion	action taken
• observing protocol	• superiors contacted nationally and locally
• involving participants	• contacted beforehand, permission obtained
• negotiating with those affected	• done - voluntary participation
• reporting progress	• one letter sent immediately after each visit
• obtaining explicit authorisation before observing	• obtained - arranged by ex-student
• obtaining explicit authorisation before examining documentation	• obtained - supplied by ex-student
• negotiating descriptions of people's work	• description jointly done
• negotiating accounts of others' points of view	• not well done - permission of ex-students not explicitly obtained
• obtaining explicit authorisation before using quotations	• not done - but all quotations anonymous
• accepting responsibility for maintaining confidentiality	• complete confidentiality
• retaining the right to report your work	• right granted by all respondents (subject to their anonymity being respected)
• making principles of procedure binding and known	• explained to each participant

An undertaking was given to each respondent, to supply her/ him with an abbreviated copy of the final research report. This will be done after submission of the findings to agency the research.

2.12 Limitations of the study

The limitations of the study have been highlighted during the discussion of the methodology in this chapter and in Chapter 3. In summary, these limitations are the following:

- The study is an extensive case study of one international course. It is clearly desirable that the findings should also be applicable to other international courses. This will depend on the degree to which the processes around the TPHC course are typical of the genre - which is not known.
- The use of the case study method to establish 'phantom controls' in a pseudo-experiment has limitations (Section 2.1). Corroborating evidence was not always available for the pre-course situation, so that the level of pre-course quality was probably set too high in some instances (Table 3.8) with output being underestimated. An on-site pre-course visit to each case would have provided more accurate data.
- The fact that the researcher was an 'insider', having taught on the course, could be a threat to validity if the necessary corrective measures were not taken (Section 2.2).
- The sample was not representative in several respects (Section 2.6), which makes the applicability of findings to the whole study population less certain.
- Obtaining corroborating evidence of output was problematical in a number of cases. In some instances this was due to the present study design, but in others to the nature of the course and the study population (Section 3.3.2).
- Because of the problem in corroborating outputs it was not possible to determine associations of variables with output statistically (Section 3.7).
- The methodology did not allow precise quantification of output, only ranking (Sections 3.4 and 3.5).
- In the absence of similar studies it was not possible to make a comparative judgement of the output due to the course.

The development of an appropriate methodology for the study was a time-consuming process, which continued after data collection had been completed, and while analysis was being performed. The results of the analysis are given in the following chapters.

Chapter 3 The output due to the course

3.1 Reconceptualisation: the impact of the course on ex-students' educational value systems

In this section ex-students' perceptions of the course is explored - how they felt it had affected and changed them as teachers. The TPHC course implicitly required that students should 'reconceptualise' (Friedman and Lipshitz, 1992) - that they should consciously change and reorganise their underlying cognitive structures. For the new concepts they came across students were expected to change their 'competence value' ('this will help me to work well') and 'evaluation value' ('this is right/ wrong') - without such changes the TPHC course could not be expected to lead to changes in practice.

The data for this analysis were obtained during the protracted interview, when ex-students were asked to report how they had experienced the course (Appendix 1, question 3.3). The responses to the relevant question in each of the 87 interview transcripts were scrutinised. The analysis in Table 3.1 below identifies the principal themes; the meaning of the themes is subsequently expanded in the words of the respondents themselves.

Table 3.1 Reported changes from exposure to the TPHC course

A systematic approach to teaching and learning:	
• a systematic approach overall: job →objectives→teaching→assessment	7
• developing a curriculum based on the job to be done, through task analysis	13
• preparing lesson plans with objectives; better preparation	25
A new learner centred approach:	
• realising that learners should contribute, can also teach 'teachers'	24
• understanding that teachers need to facilitate/ support student learning	24
• realising the need for a close relationship between learners and teachers	22
Learning taking place differently:	
• learning skills by doing them, until competence is achieved	13
• active, two-way learning	14
Increased skills as a teacher:	
• mastery of new techniques of teaching and assessing	58
Other personal changes:	
• increased confidence as a result of the new skills	12
• gaining a conceptual framework for previous practice	5
• becoming more reflective about teaching	5
	N=87

The responses were unstructured and spontaneous, which means that the number of cases where ex-students actually experienced each of these changes may well be higher.

A systematic approach to teaching and learning

Some ex-students reported being struck by the systematic approach the course had to the whole learning process: 'In Liverpool I still remember, if you wanted to write a simple curriculum you start from the tasks of the person you want to train, the objectives, then you decide what to teach. Why I liked Liverpool: you look at one task, then you do task analysis... Once we mastered task analysis you move on to lesson planning, then teaching methods, resources etc. I found that was very strong' [40]. The structure referred to included both curriculum development: 'It was so structured - we started with health analysis, then task analysis ..' [86]; and lesson planning: 'You start with objectives, then go to content, methods, aids, assessment, time' [69].

Within this systematic approach ex-students were converted to the idea that a curriculum should be based on the job to be done, through task analysis (this was naturally more relevant to those who had the opportunity to work on curriculum development): 'The other thing: the idea of developing a curriculum based on task analysis. You'd sit and follow someone as he performs his job, then end up making a curriculum. The curriculum was task oriented - in the past there was not such a thing' [43]. Several clearly had the opportunity to put this into practice: 'The other thing I'm doing is task analysis. Now I follow this process in curriculum development: subtasks; finding the knowledge, skills, attitude required; group them to form a module' [75]. In spite of the relatively short duration of the course some ex-students felt they had been truly empowered and skilled in this respect: 'After that - we had some .. people came to teach us about curriculum. Nothing was strange, I had the basis, I knew. No-one can cheat me about that' [50].

At a different level ex-students became aware of the need to plan lessons in a systematic way, and to prepare them thoroughly: '.. at first I was just doing. Now I realised that before you teach you need to prepare very well - so that really your teaching will be beneficial' [16]. The concept of learning objectives was for some a revelation: 'I really felt these learning objectives really helped me .. it was so obvious, I didn't know how I could've missed it! It was a very big thing for me' [30]. Ex-students were also using the planning structure advocated by the course tutors: '.. this structured presentation which I now try to follow in my teaching - steps: introduction, main points, summary, based on objectives. I want to be strict on that' [75].

A learner centred approach

This was a very important change that many ex-students experienced: 'I really made a change in that course - from teacher oriented training to learner oriented training' [1]. It was largely 'taught' through the example of the TPHC course tutors: '.. the attitude of the lecturers was very appreciating. They never pretend that they are the only qualified persons, or that they don't want to help students. The distinction between teacher and student was none at all - they were friendly, helpful' [71].

This change showed itself in different ways. There was a realisation that learners have much to contribute, and that teachers can learn from them: 'Before I was thinking teachers know all the things; but sometimes from the students you can get good things too - brainstorming - the students they also know. Like senior health workers, they have much more experience than me, I ask them about it, you can learn from them too. It doesn't mean you have all the knowledge, others have too, you can learn from them' [82]. This realisation led to a change in attitude: 'It also changed my attitude towards students, to look on them as mature people that I could learn from equally' [52] and to a change in demeanour: 'Before I used to be the master, the avowed boss, standing there teaching, telling the pupils what to do and what not to do. Now I'm more of a listener' [13]. A key concept was a movement to a new 'way' of teaching: 'At first I had a problem - my teaching was one-way .. What was put in my mind there was - teaching isn't one-way, it's two-way. Teacher and learner learn from each other. You don't talk to someone who's empty ..' [55]. Ex-students also developed a clear idea of how this should be done practically: 'Before I'd been doing one-way, afterwards two-way. You find out from participants how much they know before you add what they don't know' [58].

Ex-students also began to understand that teachers need to facilitate/ support student learning: 'The teacher is a facilitator of learning; after the course I saw myself as a facilitator. People have individual paces at learning, so your teaching should be tailored' [49]. Teachers have a responsibility; *laissez-faire* is not acceptable: 'If they fail you haven't played your part; if a student doesn't do well the teacher should assess himself ..' [16]. Individual students need attention: 'I learn at TPHC to attend to that. I have to give opportunity to each student, each gets a chance to give answer. I call her name, ask what's wrong - "You OK with me?"' [6]. Socrates's notion of the teacher as 'intellectual gadfly' was clearly seen by some: 'Previously .. I see myself only, how much I can speak, clarify, how quickly I can finish - if I finish late something wrong. If we speak more ourself, not allowing students to talk, we're doing best job. After returning from Liverpool I was thinking - it's not right: if my student think and do more, then I'll be a good teacher' [67]. The emphasis had to move from the teacher to the student: '.. considering the student as *the* person important in teaching' [61].

A further element of this change was the understanding that the relationship between learners and teachers needs to be closer: 'An attitude of acceptance to the student is a condition to get them to learn. Otherwise, maybe they get the information, but it will not change the person' [74]. This was the result of the example they had seen in Liverpool: 'I also learnt that to be a teacher, teaching in a country like ours, students are looked at like someone very inferior - over there he is treated with respect. Whatever programme we make we must discuss, make decisions with them - we must not see students as someone very simple, to be closed down whatever you talk' [42]; also, 'Now I'm coming to students, I'm not behind the desk. I liked it very very much, tutors kneel down with students so close, the attitude part I learnt' [67]. Pastoral care was now seen to be important: 'It got into all of us; we do care for our students. We go all out to make our students comfortable - it's not common in most places. Another thing - when people come into your place you orientate them. They get to know where they can find things. We've adopted that too' [60].

Learning taking place differently

Ex-students mentioned two particular approaches to teaching and learning. The first concerned active learning: 'A teacher is not particularly a teacher; you facilitate teaching by making it more active, rather than passive learning' [31]. They understood why this was important: 'First of all I learnt that when you just stand there and talk, students takes in just 25% of what you pour on him. When he participates it gets more, 40%. When he actually sees, more audiovisual, he retains up to 50%. The course was blending all these, involving all the students more than I thought possible - spending less time just talking' [23]. They understood where they had gone wrong before: 'Also the group discussion; I realise - I think I was too much - all the discussion was led by me previously' [35]. The lecture as a teaching method started being seriously questioned: 'When it came to relevant methods with the kind of students I teach, I realised that lecturing is not actually the best .. you assess and say, here we can lecture, but here we have to take them to see' [50]. Again, this was learnt from experience on the TPHC course: 'There was active learning, in the sense that the lecturers never came to us as if they know it all. The exercises involved the learners .. the idea changed to say students must be active or involved' [43].

The second important change was a correct understanding of the importance of learning skills thoroughly and systematically, to achieve competence. The error of the past was grasped: 'To us - as long as you've taught someone, given the theory - that's all. But if you're going to train clinical assistants they have to know exactly what they'll be doing, and they should do it' [36]. As a result 'You need to provide practicals. Students must go out and practice, don't keep them in the classroom' [43]. Many knew this intuitively, but it was confirmed for them: '.. teaching for tasks, that was the real thing. You have to teach people to do something. It clicked the switch' [19]. Ex-students learnt how such skills training should now be done: 'Mostly return demonstration. Formerly I call one person, she will do, it won't take long. After I learn that all must do it, until they do it well' [21]. The importance of checklists was realised: 'Checklist, I've developed, I've motivated most teachers .. Most of my colleagues know how when they do practical exams. I taught them to give a copy to the students, so the students know it. The students were very happy .. very easy' [70]. Some ex-students realised the importance of integrated teaching: 'Also how you manage practicals and theory, it threw some light on that. I was teaching surgery practicals, it gave me the impression if you want to teach practicals, you combine the two immediately - not theory this year, practical two years from this date' [49].

Increased skills as a teacher

The most commonly reported change concerned an increase in skill in techniques concerned with teaching and assessing - not surprisingly, since the TPHC course set out explicitly to teach these in the planned learning sessions. Personal presentation skills (learnt principally through micro-teaching) were felt to have improved: 'Teaching using the board - I used to face the board and talk to it. Now I've learnt: while writing don't talk, wait till you are finished, to face the learners. It also changed my approach. I had to decide, depending on the type of audience, what information they can absorb .. It

changed my structure of presentation. Gestures: in the past I'd stand and make a presentation. Now I use body language. In short, it makes things interesting' [46].

New teaching techniques were mentioned by many: 'The teaching methods - I still remember snowballing, very useful, even in the community here. And group work or discussion; I use it very well and I use it now - I was taught that in Liverpool' [57]. The correct use of these techniques was also commented upon: 'What I liked most was how it was divided - how to teach knowledge, attitudes, skills. I liked the way it was broken down' [22]. New techniques of assessment were learnt, in tandem with the teaching methods: 'The way of assessment: objectivity and validity of the tools of assessment used were very good .. OSPE - I found it a good innovation. This way you take bits and pieces, you choose stations to cover information, communication skills, manual skills, attitudes' [23]; and 'I came back, I was able to prepare MCQ, true/false ..' [51]. The new ability to make and use teaching aids was often commented upon: 'The use of materials for teaching: you prepare, like for example I mostly prepared for TBAs - how to make them know what you're really talking about' [21]. Learning to use an overhead projector was often mentioned: 'All of us got glued to the use of the OHP' [40].

Particular domains of teaching/ learning were singled out for comment - for example 'attitudes': 'Attitude training was very good. We were discussing a few months ago, teaching attitude. Some said, you can't teach it. I said, we can, people can learn attitude' [72].

Other personal changes

Many ex-students reported increased confidence as a result of the TPHC experience. Some of this was due to the new skills that they had acquired: 'The presentation skills I've developed - I gained confidence to face group, now I'm not scared to face higher group' [67]. The fact of overseas travel also contributed: 'I got more scope. I've been there, gone there, I've mixed with so many learned people - I get new ideas' [65]. Some individuals felt that they had graduated to a new level of competence: 'Before that - I wasn't a teacher before. Since then I'm really confident, and very free; I can stand up and teach anyone, even the president!' [38]. With the confidence came added self-reliance: 'Before I used to ask my supervisor for even small problems .. we had to solve our own problems - think of a problem, find a solution. It gave me confidence, self-reliance, to count on myself, as an important person can take decisions' [84]. The feeling of self-confidence went even further: 'Even if I didn't know something it's easier for me to admit I don't know, I'm not ashamed now. Whereas at first I'd feel so embarrassed. A teacher is a human being' [53].

A few experienced ex-students reported that, although much in the course was not new to them, it had provided them with a conceptual framework: 'You do it in practice - that was the whole thing about that course: all things I'd done before - to put a structure and name to it was very useful' [19]. With the framework came clarity: 'It certainly clarified a lot. Evaluating: are you teaching what they need to learn? Are they learning? It clarified, it didn't change' [86].

Finally several ex-students mentioned that they had developed a very different understanding of what it means to be a teacher. 'I look at teaching now as something special. Whether you're educated, automatically you can't say, this one can teach me. It's not like that, it's a special career. You've got to be trained for it .. It made me look at teaching as something which one shouldn't take for granted' [50]. Some had become more reflective about their work as a teacher: '.. the way of evaluating myself as a teacher, my students as learners. evaluate a whole course' [84]. This was also learnt from the example of the course: 'Mostly I liked the way we were taught to critique lessons, say something on what we learnt. It developed my mind' [59].

Additional findings

From the analysis it became clear that, in terms of their perceptions of change/ benefit due to the course, ex-students fell into different groups:

- Some ex-students perceived the change and benefit more in terms of techniques: 'It certainly opened a whole load of possibilities. Now I had clear guidelines which I could use, across the board - from preparation to assessment' [30], and others in terms of concepts/ philosophies of teaching and learning: 'Before I thought, teaching was telling people. Afterwards: the whole thing turned around, I see what people know; we come together for something better; there are different ways of coming to that "better"' [1]. The recollection of ex-students about their benefits of the course was clearly affected by their subsequent performance and situation, and what they had been able to implement.
- A number of ex-students reported that they already 'been there' (or thought they had), so that little in the course was new to them: 'The impressions were there from Kathmandu; I was lucky to be exposed in advance. TPHC helped me to clarify these things' [63]. On the other hand the TPHC course was for some their first experience in learning how to teach: 'When I went to Liverpool I didn't know much about being a teacher .. For me it was an introduction to being a teacher' [56].
- Some ex-students seem to have been profoundly affected: '.. that course motivated me - in attitude, behaviour, everything - not only about teaching method' [70]; 'I have a very very positive feeling about the course' [69]. Others were affected relatively little: 'I can't cite examples because I lost the opportunity to continue practice' [39].

Interestingly it is clear that the ex-students learnt in two distinct yet interrelated ways. Firstly they learnt new concepts and skills in structured classroom sessions and exercises; and secondly they absorbed attitudes and approaches from the example of their teachers on the TPHC course. The latter was responsible for almost all the learning about student centredness, but also helped ex-students to learn the teaching and assessment techniques to which they were exposed, at a deeper level.

In relation to the SPICES model (Harden *et al*, 1984), the principal changes that the ex-students report in themselves are:

- Becoming more *student centred* - very strongly reported.
- A *systematic* approach - a curriculum based on the job to be performed, aimed at

achieving competence, and systematically carried through down to the level of individual learning sessions.

Through the analysis in this section a greater understanding was gained of how the course affected ex-students' educational understanding - those areas in which they reported that they had changed. Under the influence of a multitude of factors this reported increase in capability was then to a greater or lesser degree translated into action. The output produced by such action forms the subject of the remainder of this chapter.

3.2 A workable concept of 'output'

Each case in the study is unique, differing from or resembling others in a variety of ways:

- Exposure to/ experience of teaching ideas and skills, prior to attending the 'Teaching Primary Health Care' (TPHC) course: those in agreement with the course ethos, and those against.
- Culture, class, educational background, work experience.
- The motives of the different role players involved in the 'entry'.
- Opportunities for applying what they had learnt in subsequent work situations.
- The timing of those opportunities: how soon after the course they arose, and for how long they continued.
- The position of the ex-student in her/ his organisation.
- The exact nature of each ex-student's work - both as a teacher, and in other respects.
- Support and resources for innovative work
- The nature and amount of information available to the researcher, about the ex-student's situation before and after the course.

A model had to be developed which would take account of this diversity, yet make it possible to rank the outputs achieved.

The examples of evaluation of training in the literature focus largely on the contribution of the course to ex-students' capability - which is a potential for action only (Section 2.10). The present study is concerned with the contribution of the course to the ex-students' output - to their daily work, to what they produce. When considering such work (the training of health workers, in this case) two aspects stand out:

- A lot of such work can be done, or a little - the *quantity*.
- The work that is done can be done well, or badly - the *quality*.

Output can therefore logically be conceived of as the product of a given quantity of work, and the quality of that work:

output = quantity of work × quality of work

In this model the TPHC course could increase output in two ways:

- By increasing the amount of training related work done by an ex-student (which could only be expected to happen trivially, since ex-students had to be substantially involved in training to be admitted to the course).
- By adding to the quality of the training related work done by the ex-student (this is the principal way in which the course can be expected to increase output).

This refines the model as follows:

output due to TPHC = (post-course quantity of work) × (quality added by TPHC course)

Metaphorically this can be visualised as a bowl of dry maize porridge (the quantity), made palatable by the addition of sour milk soaking into it (the added quality).

This model was developed during the course of the study, and proved to be a crucial tool in making sense of the data about output. It is related to Eraut and Cole's (1993) concept of 'performance' - the ability to transfer 'capability' into work situations.

3.3 Validity of 'output' information in the cases

In order to determine the effect of the course the study design made provision for determining ex-students' teaching capability before the course, and their production of 'improved' teaching afterwards. Information had to be collected which would permit valid conclusions to be drawn about the pre- and post-course situations. There was no problem in obtaining information from the ex-students themselves; however such information had to be corroborated to be believable. In the first round of follow-up visits (to West Africa) it became clear that the validity of the information that could be collected in each case varied widely.

3.3.1 The complexity of pre-course and post-course learning

Concerning the pre-course situation, the main challenge was to arrive at as full an understanding as possible of the various influences that operated on each ex-student before the course, and after returning from it. The insights of social learning theory were particularly useful in this regard, with several processes being seen to be involved in determining behaviour (Davis and Luthans, 1980):

- Direct learning from a variety of personal experiences.
- Vicarious processes: people learn through observing how others interact with the social environment, and by modelling their own behaviour on these examples.
- The effects of cognitive processes: feelings and images which affect behavioural choices.
- Self-control processes: self-regulation of behaviour through conscious choice.

The same need existed for the post-course period, since other influences could (and did) start operating the moment the ex-students returned to work.

The interview schedules deal specifically with each of these processes (see Appendix 1).

3.3.2 Problems with obtaining corroborating information

The most common problem however was that information from the ex-students about their post-course activities was not corroborated, or only partly. The details of this problem are given in Table 3.2 overleaf. Problems of this nature made it essential to define strict criteria for accepting the validity of data. Corroboration of data from other sources, with triangulation, was seen to be essential. A very important finding was that there were some cases for which it would be almost impossible to obtain corroborating evidence.

An interesting example of conflicting evidence may be found in the case of 26 and 27:

1.35 Their national manager made them look good; possible reasons/ motives:

* a genuine conviction that they were doing well, based on his observations, in accordance with his view of what constitutes a desirable outcome
* politeness - so the researcher would feel 'his' course was a success

    * if the ex-students were doing well it was to his credit as their manager
- Their expatriate manager made them look hopeless; possible reasons/ motives:
    * their achievements might in fact have been minimal
    * their achievements did not fit in with his paradigm of good teaching/ learning (which was different from the TPHC one, focusing more on 'adult education' than on competence)
    * he never went out with them into the field, but from their reports and those of others was convinced that they did nothing there.

By triangulating these accounts with interview and documentation evidence both managers appeared to be correct - the ex-students were not performing efficiently, but were yet very active and committed.

Table 3.2 Problems experienced with corroborating information about output

problem	comments/ implications
The ex-student might have moved on to another job, or resigned, with the result that the usual alternative sources of evidence (colleagues, documentation, practice to be observed) were not available for the previous job [1, 12, 16, 17, 18, 36, 43, 45, 46, 70, 74, 84].	To follow up the old workplace would have taken a lot of additional time.
A failure to observe activities that needed to be observed - for example, the ex-students' own students might be away on field practicals or on holiday, so could not be the object of a teaching session [7, 11, 33, 53, 54, 55, 67].	Ex-students had been asked to warn the researcher if this were going to be so.
Activities that could be observed might not have been a true example of ordinary practice; also, the presence of the evaluator, and knowledge of his mission, could have skewed preparation and performance [9, 34].	Some examples of low TPHC quality teaching were proudly offered by ex-students.
Due to unexpected snags in the researcher's travel arrangements he arrived too late to witness planned activities [26, 27, 37].	Time was also lost for the collection of other data.
Colleagues or superiors asked to corroborate information might not be able to, because they did not work together closely with the ex-students [16, 17, 48, 53, 54, 55].	It was found that teachers almost never sit in on each other's classes.
Significant colleagues with important information to share were away on other duties [4].	Time was too short to search for them.
Colleagues or superiors might not be reliable in their testimony - they might want to boost their colleagues (to promote the institution) or disparage them (out of jealousy) [26, 27, 66].	In a few cases conflicting evidence was given in the same case.

Documentation might not be available, because the ex-student simply did not produce any [16, 17, 40, 48, 51]	In some cases there was none where there should have been some.
Documentation that was available might not be reliable because its authorship could not be attributed to the ex-student with sufficient certainty [3, 27, 87].	Some material had no named author, other material had several authors named.
There appeared to be cases where ex-students deliberately withheld documentation, perhaps because they felt it reflected badly on them [5, 53, 54].	Material which reflected non-TPHC practice was accidentally discovered.
Ex-students had had so many formal educational inputs at various stages of their careers that it was very difficult for them to attribute a particular skill or insight to the TPHC part of that input [51, 52, 58].	The difference between pre-course and post-course quality of practice could not be determined.
Some ex-students were so busy that it was hard to find enough time for complete data collection [7, 51, 59].	Very little could be done to rectify the situation.
The ex-student could only be traced at the last minute, so there was no time to collect data thoroughly, nor had the ex-student prepared [8, 22, 23].	Some of these cases were very useful - often with low or minimal output.
The ex-student was away from work on sick or maternity leave, so could not be observed working; documentation at the workplace could not be examined [6, 15, 50].	In one case the ex-student collapsed during the interview.
Greater possibilities of mutual misunderstanding in cases where the ex-student had a poor command of English, or had a strong local accent, or was chewing betel nut throughout the interview [33, 34, 38, 49, 64]	In four of the five cases there was in any case too little other evidence to corroborate the interview data.

3.3.2 Classifying cases according to the validity of their information

As was described before, the output that a given ex-student achieved as a result of the TPHC course is the product of:

- the *quantity* of teaching related activity that s/he subsequently performed
- the added TPHC-style *quality* of that activity.

This has the following implications:

- If information on both of these aspects is valid *output* may be determined with validity.
- If only 'quantity' information is valid, conclusions may only be drawn about *opportunities* for applying what was learnt on the course.
- If only 'quality' information is valid, conclusions may only be drawn about the *capability* that resulted from the course (this situation never arose).

A decision therefore had to be taken in each case, about whether the information available on it was valid enough for it to be analysed so that conclusions could be drawn. For this to be done 'validity' had to be defined. It was decided to use the following criteria:

Table 3.3 Criteria for accepting validity of corroborative evidence

For *post-course quantity* of output, the ex-student's verbal testimony should be fully corroborated by a combination of: • the verbal testimony of persons working with the ex-student • information gained by scrutinising relevant documents • circumstantial evidence, e.g. the ex-student's presence in a new job.
For *post-course quality* of output, the ex-student's verbal testimony should be fully corroborated by a combination of: • information gained by observing the ex-student's practice • information gained by scrutinising documents having the ex-student as a certified author • the verbal testimony of persons working with the ex-student. Validity of quality would also be accepted for a Specific Item if the information provided by the ex-student indicated mastery of that item (e.g. when the complexities of application of a Specific Item were clearly described - which only happened in a few instances).
For *pre-course quality* of output (=capability), the ex-student's verbal testimony should ideally be fully corroborated by a combination of: • the verbal testimony of persons who had worked with the ex-student in the pre-course period • information gained by scrutinising relevant documents from the pre-course period. If the ex-student reported any exposure to a Specific Item (being taught with it, learning about it, performing it) it would be accepted as being part of her/ his per-course capability.

Further decisions taken were:

- If there were contradictions between sources of evidence the evidence of the least favourable source would be taken.
- If no output was achieved (or very little) the information from that case would be considered valid with respect to quantity as well as quality.
- Potential for future output would not be considered.

Practically speaking the judgement of validity for each case was done by:

- Checking if there was corroborating evidence for the quantity of TPHC related work done (see Section 3.4).
- Checking if there was corroborating evidence for the post-course quality of the TPHC related work (see Section 3.5).

The summary form used in each case to determine validity is given in Appendix 4, Section A4.2. The following was found:

Table 3.4 Validity and usefulness of output data

validity category	no.	%	*usefulness*	*no.*	*%*
• output real, fully validated	23	26%	*A. valid, can be used for analysis*	*45*	*52%*
• no output, zero teaching done, valid	4	5%			
• no output, minimal teaching done, valid	12	14%			
• no output, much teaching done, valid	6	7%			
• real output partly validated	4	5%	*B. partly valid, partly usable*	*26*	*30%*
• failure to achieve output partly validated	19	22%			
• real and failed output partly validated	3	3%			
• no validation of output at all	16	18%	*C. invalid, unusable*	*16*	*18%*
• TOTAL	87	100%			

It was therefore only possible to validate the full output in about half of the cases. Of those about half again had achieved a real output, while the others achieved no output. For purposes of analysis later (in Chapter 5) the cases with validated outputs were divided into three categories:

Table 3.5 Categories of validated output due to the TPHC course (N=45)

category	description	no. (%)
real output	those who taught a lot, and the quality of that teaching was shown to be affected by the TPHC course	23 (51%)
zero output	those who did no teaching at all after returning, as well as those who taught only very occasionally, with the quality of that teaching minimally affected by the TPHC course	16 (36%)
unchanged output	those who were teaching a lot, but the quality of that teaching was not affected by the course - in some cases because the quality had been high before they attended the course, and in others because the job was closed to innovation	6 (13%)

The output in the other cases could not be properly validated. Here again there were three categories:

1. In some there was validation of part of the output - i.e. corroborative evidence for that part existed.

2. In some there was validation for part failure to produce an output - e.g. when the ex-student left a job with opportunities to teach, for another with none.
3. In a third group the output (or lack of it) could not be validated at all, in the absence of corroborative evidence.

3.4 Quantity of post-course output

The aim of the course is to achieve better learning through better performance of teachers/ trainers of health workers. It was decided to use *the amount of such potentially affected learning* as the organising principle for determining quantity of output - the highest common denominator that all the activities flowing from the TPHC course have in common. Using this as a unit would make it possible to compare different quantities of output.

In the process of trying to quantify this unit, this 'amount of learning potentially affected', the cases showed that a number of additional factors need to be taken into account:

- The *duration* of the output (the longer the ex-student continued to perform learning related activities, the greater the effect).
- The *proportion of her/ his working time* that the ex-student spent on activities that could be expected to affect learning.
- The *contribution* of the ex-student to an activity (if the ex-student were performing the activity as part of a team, her/ his effect on learning would be less than if s/he were doing the same activity alone).
- The *amount of learning affected* by the ex-student's activities (not how much of his/ her time the ex-student used on teaching related activities, but how many instances of learning were affected by what s/he did - for a standard period of time, e.g. per year).
- The *degree* to which a given activity can be expected to affect learning (use of a visual aid would have less effect than a well-executed lesson using an appropriate technique).
- The *geographical spread* of learning affected (changes in the local institution only would have less effect on learning than changes in several of them).
- The *implementation* of the activity (an activity only partially carried out would have less effect than one fully executed).
- The *number of other teacher/ trainers* who learnt new techniques from the ex-student, and in their turn affected learning; *how well* they learnt; and what their *geographical distribution* was.
- The *initiative* of the ex-student in initiating a learning related activity (new activities undertaken on own initiative would indicate a greater impact of the course, than if the ex-student were simply carrying out instructions).
- The degree of *permanence* of the changes achieved through the ex-student's efforts and activities (whether institution building had taken place).

The quantity of output due to training of this nature is clearly a very complex entity, uniquely constructed in each case - a situation where the gain-score problem will inevitably be present. Fine distinctions and detailed rank orderings will have no validity (Goldstein *et al.*, 1993), nor are they required - instead, in each case a quantity of output will have to be established in all its complexity by logical interrogation of evidence (Hamilton, 1994). Thereafter these quantities have to be approximately ranked - 'higher' quantities (and qualities, and outputs) are clearly desirable, whereas 'lower' ones are not - in order that the factors which led to that state of affairs may be determined.

After considering the qualifiers of quantity individually, and in their relationship to each other. the model of 'quantity' was developed utilising seven criteria of quantity - a simplification of the 'complex quantity' of each case. These criteria are given in the 'medium' category in Table 3.6 below, and described in detail in Appendix 3, Section A3.4. The model is given below:

Table 3.6 Quantity of learning potentially influenced by the TPHC course

<table>
<tr><td>high</td><td colspan="2">Much more than 'medium': a large amount of learning affected on a wide scale in the region/ country (i.e. a large increase in parameter 4).</td></tr>
<tr><td>high-medium</td><td colspan="2">More than 'medium':
• parameters 1-3 show increases
• and/or parameters 4-7 show increases.</td></tr>
<tr><td rowspan="3">medium</td><td colspan="2">The quantity of learning affected by a good full-time trainer in a training institution for health workers, in the course of her/ his work, according to 7 parameters:</td></tr>
<tr><td>1. Time: the ex-student spent most of her/ his time on activities that could be expected to affect learning (score 4-5).
2. Amount: learning was affected equivalent to sessions to a class of 15-20 all day, 1½ days per week, or 1 week per month, or 3 months per year (score 4).
3. Duration: these learning related activities were ongoing at the time of follow-up, or were operating for five years (score 5).</td><td>these form the basis of the judgement; increases/ decreases in them lead to a proportionally higher or lower rating of overall quantity</td></tr>
<tr><td>4. Dissemination: a few new learning related skills were disseminated to a few colleagues locally, so that they started using them in their own work (score 2).
5. Effect: most of the activities should of their nature have had a substantial effect on learning (score 3-4).
6. Distribution: learning was only affected locally, or perhaps also in neighbouring institutions (score 1-2).
7. Contribution: the learning related activities above were largely undertaken by the ex-student, perhaps with some help or ideas from others (score 3-4).</td><td>these are of real but subsidiary importance - increases/ decreases in two of them are needed to affect the overall quantity rating upward or downward</td></tr>
<tr><td>low-medium</td><td colspan="2">Less than 'medium':
• parameters 1-3 show decreases
• and/or parameters 4-7 show decreases.</td></tr>
</table>

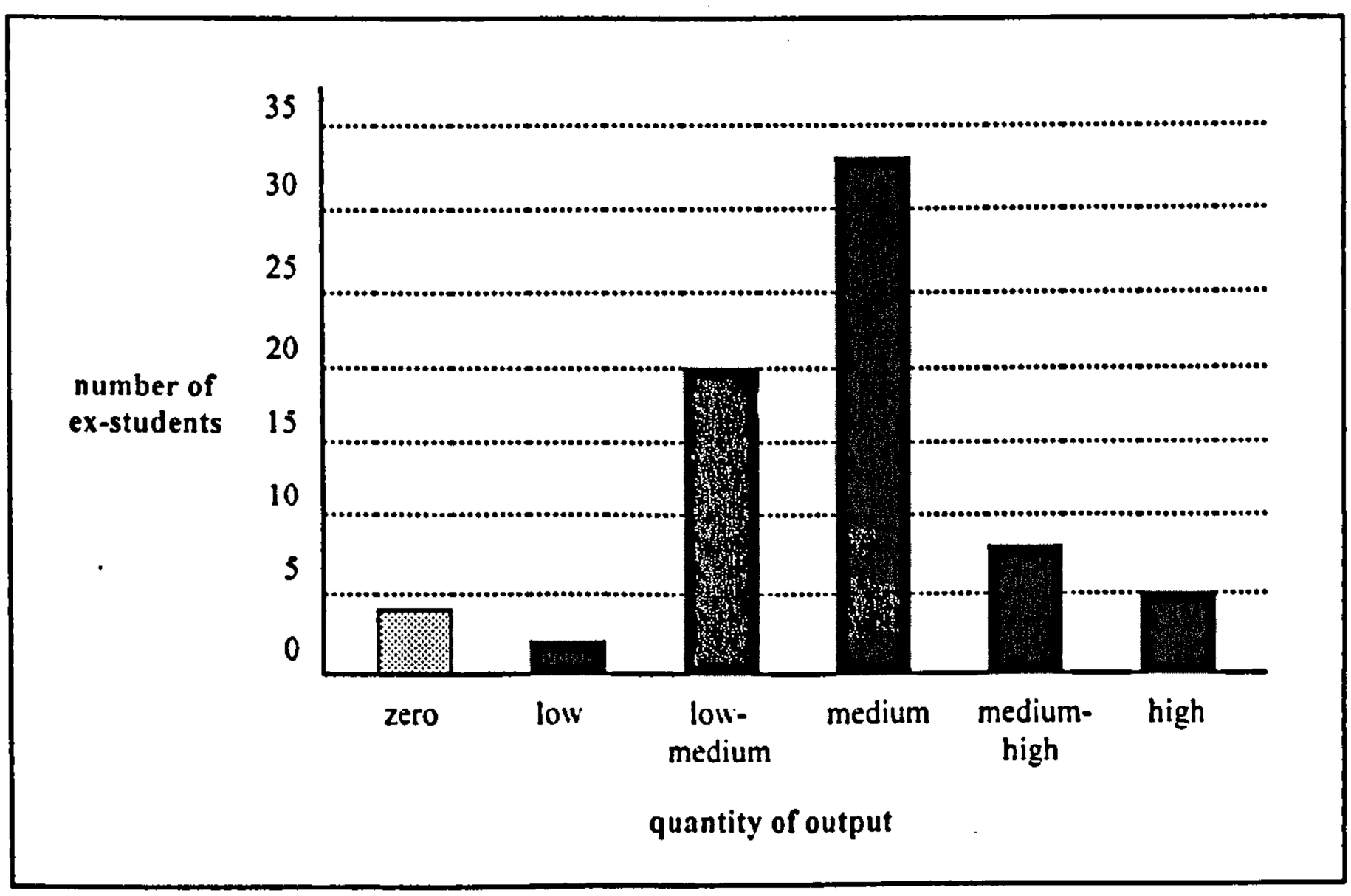
low	Only a few sessions of learning affected per year: trivial but definite.
zero	No learning affected at all.

comment:

- This judgement was made from the evidence of performance in *all* the jobs filled by the ex-student, after attending the TPHC course. If the 'quantity' parameters were different for the different jobs, means were taken, taking into account the amount of time spent in each job.
- The quantity 'medium' was chosen to reflect the most commonly occurring situation among ex-students: a full-time training job in a school for health workers.
- Broad categories of quantity were used rather than a detailed numerical model, since the latter would have indicated a false degree of accuracy in measuring the quantity.
- Health education activities (like health talks and informal discussions) were *not* taken into account; training activities (activities which equip health workers with the knowledge and skills they need to do a job) were.
- Learning related activities which consisted of the administration of training courses were given only minimal value.

The quantity of TPHC related work could be confirmed/ validated in 72 of the 87 cases. The model developed in this way delivered a more or less normal distribution - an indication of its ability to produce categories responding to reality:

Figure 3.1 Distribution of quantity of output (N=72)



Very few ex-students therefore found themselves in situations where the potential for output was zero or low; a quarter however had relatively little opportunity. These ex-students represent relative failures of selection.

3.5 Quality of pre-course and post-course output

The operational definition of 'quality' used in this study was based on the first component of Eraut and Cole's (1993) description of capability: 'underpinning knowledge and understanding of concepts, theories, facts and procedures'. From an examination of the cases it became clear that the teaching practice of ex-students varied in the number of concepts and procedures they were able to apply. These concepts and skills could also resemble those advocated by the TPHC course more or less closely.

At this stage is was therefore necessary:

- To identify those concepts and skills that the TPHC course expected students to master, and then use in their subsequent practice. This was done by examining the training programme and materials of the 1991 and 1992 courses, and extracting 'Specific Items' that appeared in the curriculum. The list was then refined after discussions with the tutor who had taken over leadership of the course in 1980, and had guided it through the years following. During this process the emphasis was on including as wide a variety as was logically consistent with the course content. This was done in the realisation that a skilled teacher is not a mere 'operative', but rather a 'practitioner' (Hamilton, 1994; Schön, 1983, p.19), who will be using a personalised variety of techniques in the appropriate circumstances. The final list used in the analysis is given in Appendix 3 (Section A3.1).
- To define for each 'Specific Item' how the TPHC course would expect it to be practised, or not practised. These criteria are also given in Appendix 3 (Sections A3.2 and A3.3).

Finally 'Quality' was defined as a combination of these two aspects:

- *Width*: the number of Specific Items taught on the TPHC course that were used.
- *Accuracy*: how closely the practice of each item approximated the standard set by the TPHC course, or in the course textbooks 'Teaching for better learning' (Abbatt, 1992) and 'Teaching health care workers' (Abbatt and McMahon, 1993).

When the width and accuracy known, overall quality could be determined as follows:

Table 3.7 Coding for overall quality of output (pre-course and post-course)

high	value 5	20 or more Specific Items + TPHC quality '4'
high-medium	value 4	any one step above *'medium'*
medium	value 3	around 15 Specific Items + TPHC quality '2-3' OR few Specific Items + TPHC quality '4'
low-medium	value 2	any one step below *'medium'*
low	value 1	10 or less Specific Items; TPHC quality '1'

comment:

- 'Medium' was arbitrarily defined, as a level between unredeemed, pre-TPHC course practice and optimum post-TPHC course practice.
- It was decided to use broad categories of quality rather than for instance the actual number of Specific Items, since the latter would have implied a mathematical accuracy that the nature of this kind of output could not justify - for example, the frequency of use of the range of Specific Items varies from ex-student to ex-student.
- In order to be able to compare quality before and after the course it was decided to give each quality level a mathematical value - as a tool for ranking only, and not as an accurate expression of the amount of a particular quality.

Overall quality was determined as follows:

Table 3.8 Criteria for determining quality of output

pre-TPHC	post-TPHC
All Specific Items mentioned by the ex-student to have been experienced in any way (undergone, learnt about, practised) were considered valid.	Only those Specific Items were accepted, for which the ex-student's evidence was substantiated by other sources (documents, observations, the testimony of other persons). In a few cases Specific Items were also accepted where the ex-student gave very detailed information showing mastery and depth of understanding.
The 'TPHC quality' of at least 50% of these Specific Items had to be corroborated by other sources (documents, observations, the testimony of other persons, detail of information/ description by the ex-student). Where this could not be done the corroborated post-TPHC quality was attributed to that Specific Item.	The 'TPHC quality' of at least 50% of these corroborated Specific Items had to be corroborated by other sources (documents, observations, the testimony of other persons, detail of information/ description by the ex-student).

comments:

- In some cases the decisions about the pre-course situation are likely to have set the pre-course baseline higher than it should have been (since exposure does not guarantee capability), but never lower. This could then result in an under-estimation of the effect of the course, but the danger of falsely attributing change to the course would be obviated.
- For both situations the TPHC quality for the whole output was calculated as the arithmetical mean of the TPHC qualities of the individual Specific Items.
- Where ex-students denied having used any Specific Item they were believed.

3.5.1 Specific Items

For 33 of the cases the use of all Specific Items in the post-course period was validated. The frequency with which these were used after completion of the course is given in Table 3.9 below.

Table 3.9 Specific Items used after attending the course

		no.	% (N=33)
1	***curriculum development***		
0	doing a needs assessment	5	15%
1	writing a task list	1	3%
2	doing task analysis/ working with the 'domains'	6	18%
3	less formal: needs assessment leading to educational objectives	13	39%
4	partial curriculum, or not systematically done, or revision	9	27%
5	writing a full curriculum (needs assessment, task list, task analysis)	14	42%
2	***lesson planning***		
0	writing lesson plans	25	76%
3	***teaching skills: specific methods***		
0	modified lecture with more interaction (or: lecture-discussion)	22	67%
1	improved practicals: demonstration, practice, checklists feedback	24	73%
2	particular communication games (e.g. talk map)	5	15%
3	micro-teaching specifically	5	15%
4	role play, fishbowl	12	36%
5	arranging field visits/ practical attachments	11	33%
6	games (e.g. 'MCH bingo')	9	27%
7	using methods that teach decision making: case studies, PMPs etc.	9	27%
8	attitudes teaching	8	24%
9	using presentation skills better	3	9%
10	using different methods for different circumstances	12	36%
11	projects/ assignments	6	18%
12	making breaks during class	2	6%
4	***teaching skills: interaction/ participation***		
0	icebreakers	2	6%
1	codes/ discussion starters/ stories/ drama	13	39%
2	finding out what students know first/ brainstorming	10	30%
3	group work with report back (including snowballing)	13	39%
4	discussion with ex-student facilitating/ question-answer session	20	61%
5	accompanying students on field visits	4	12%
6	team building exercises	2	6%
7	gaining learners' attention	1	3%
8	changing the way seating is arranged	5	15%

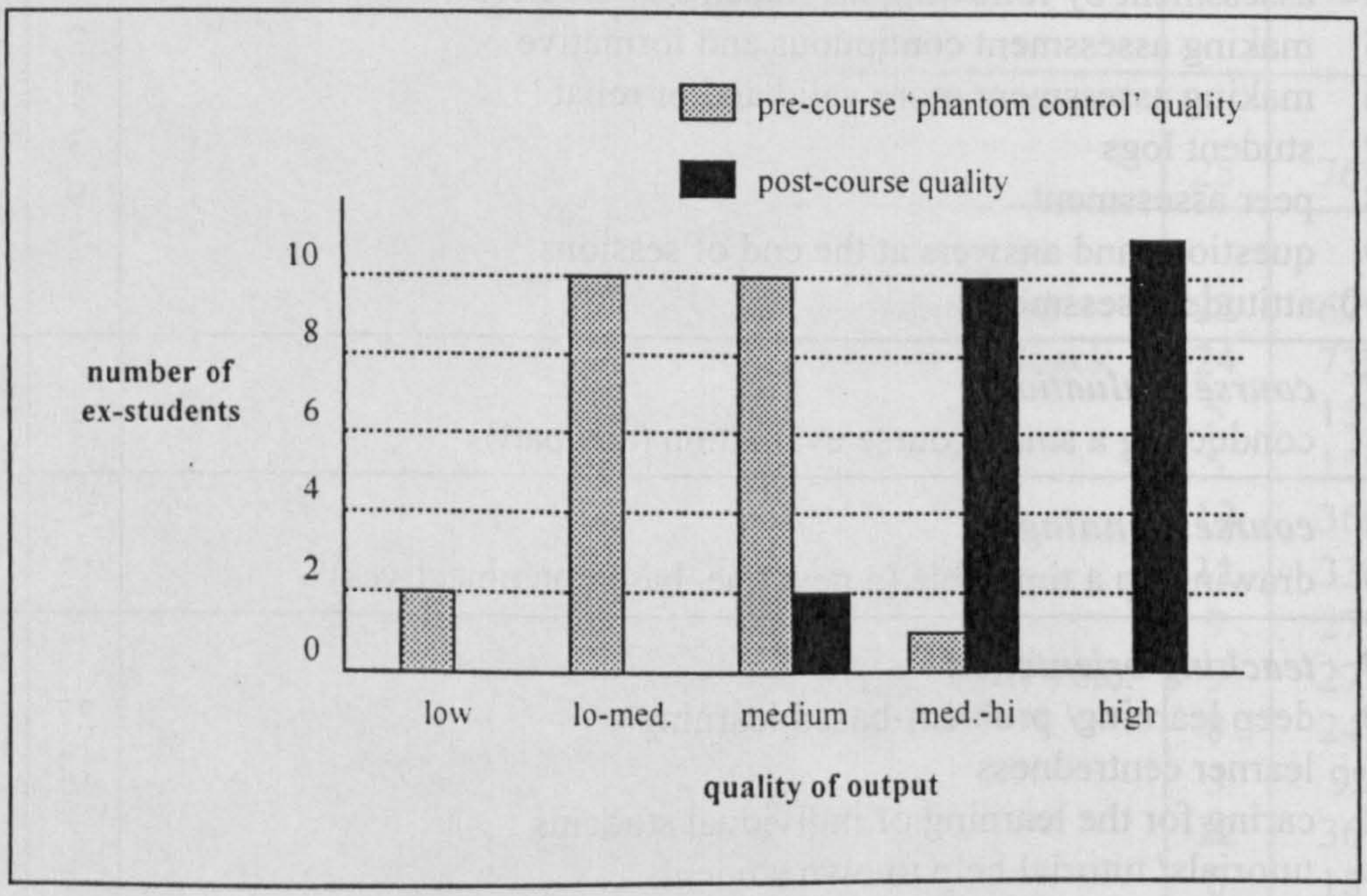
5	***teaching skills: making and using teaching materials***		
0	chalkboard: using it better	8	24%
1	posters, pictures, flipcharts, flannelgraphs: more often, better	20	61%
2	other projectors or video: first time, or more often, or better	7	21%
3	OHP: using it for the first time, or more often, or better	12	36%
4	using objects: actual (e.g. pills) or made (models, 'birthing box')	10	30%
5	making more or better handouts/ leaflets/ booklets	17	52%
6	making checklists	15	45%
7	making own visual aids	11	33%
8	making own games	1	3%
9	having visual aids made/ providing them/ providing hardware	5	15%
6	***assessment***		
0	improved knowledge methods: short questions, better orals,	19	58%
	MCQs	13	39%
1	manual and communication skills :with checklists/ feedback	7	21%
2	OSPE specifically	6	18%
3	improved assessment of decision making skills	4	12%
4	assessment by following up students in the field	6	18%
5	making assessment continuous and formative	2	6%
6	making assessment more valid and/or reliable	1	3%
7	student logs	3	9%
8	peer assessment	9	27%
9	questions and answers at the end of sessions	2	6%
10	attitude assessment		
7	***course evaluation***		
3	conducting a small course evaluation (any part)	7	21%
8	***course planning***		
0	drawing up a timetable (a new one, based on objectives)	13	39%
9	***teaching orientation***		
0	deep learning/ problem-based learning	27	82%
1	learner centredness	12	36%
2	caring for the learning of individual students	3	9%
3	tutorials/ tutorial help to own students	2	6%
4	having informal discussions with students	1	3%
5	team teaching	2	6%
6	skill/ job orientation	9	27%
7	Primary Health Care/ community orientation	4	12%
8	taking responsibility for work and students	2	6%
9	requesting feedback on own teaching	1	3%
10	starting up social activities for students	1	3%
10	***general***		
1	action planning	1	3%
11	***miscellaneous/ unintended***		
1	starting or improving a resource centre	3	9%
2	recommending books from the TPHC course	2	6%
4	working with more confidence	6	18%

The Specific Items that were used most frequently stand out clearly: curriculum development; lesson planning; better practicals; group discussion; more interactive 'knowledge' sessions; use of deep/ problem based learning. It is remarkable that these mirror the two main guiding principles of the TPHC course (see Section 1.1): a *logical, task-based* approach, and a *learner centred* approach. A further remarkable finding is the large number if Specific Items that were used, even if infrequently - very few of those identified from the course literature (Appendix 3, Section A3.1) were not used at all.

3.5.2 Quality: pre-course, post-course, 'added'

Although the actual number of Specific Items used after the course could be validated in 33 cases, the 'TPHC quality' of those could only be validated in 23 of them (in a further six the stories clearly showed no change - these are not included in this analysis). As a result the overall quality was only calculated for these cases.

Figure 3.2 Distribution of quality of output (N=23)



The 'quality' categories also show a roughly normal distribution, an indication that they reflect reality. As expected pre-course quality distribution is shifted to the left, and post-course quality to the right, indicating a clear upward shift in quality in these 23 cases.

Once the overall 'numerical' quality had been determined *with validity* for the pre-course and post-course situations, it was decided to assume that any difference between them was due to the TPHC course. The size of the difference could be reflected in the mathematical difference between the two codings - again, in order to be able to rank them, and not to ascribe an absolute value to them. The quality added by the TPHC course could then be described as follows:

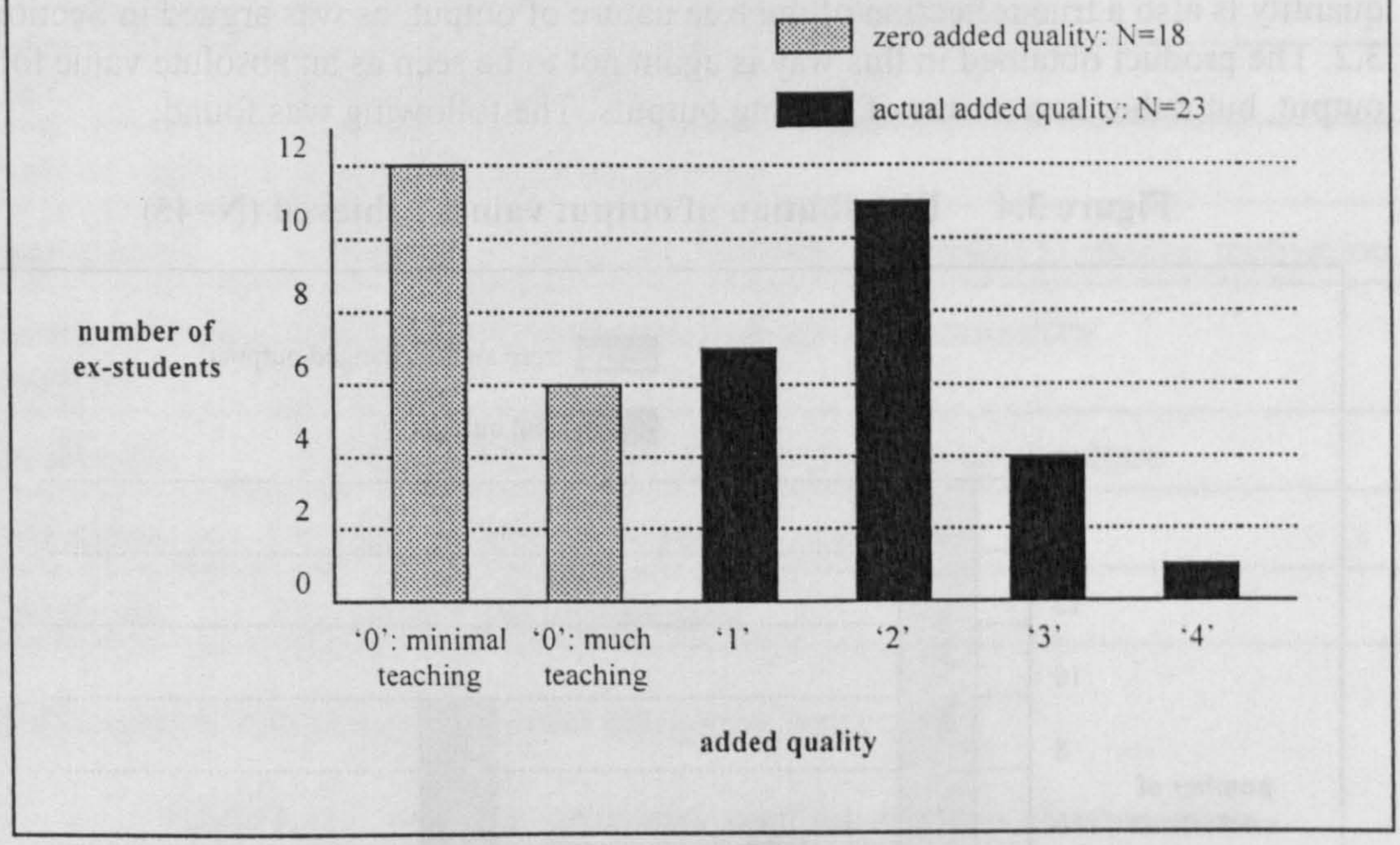
added quality = post-course quality - pre-course quality

It was possible to work out the added quality for the same 23 cases, and also for another 18 where the increase was zero. In each of the latter it was clear from the case story that there had been no increase in quality:

- 12 cases: very occasional teaching, of poor quality
- 6 cases: 'business as usual' for busy teachers - no increase in quality.

In four cases no further TPHC related work had been done at all, and quality could therefore not be judged; these cases are not included in the data in Figure 3.3 below.

Figure 3.3 Distribution of 'added quality' of output (N=41)



It is clear that 44% of the 41 cases with validated information about quality showed either no increase in quality, or a negligible amount.

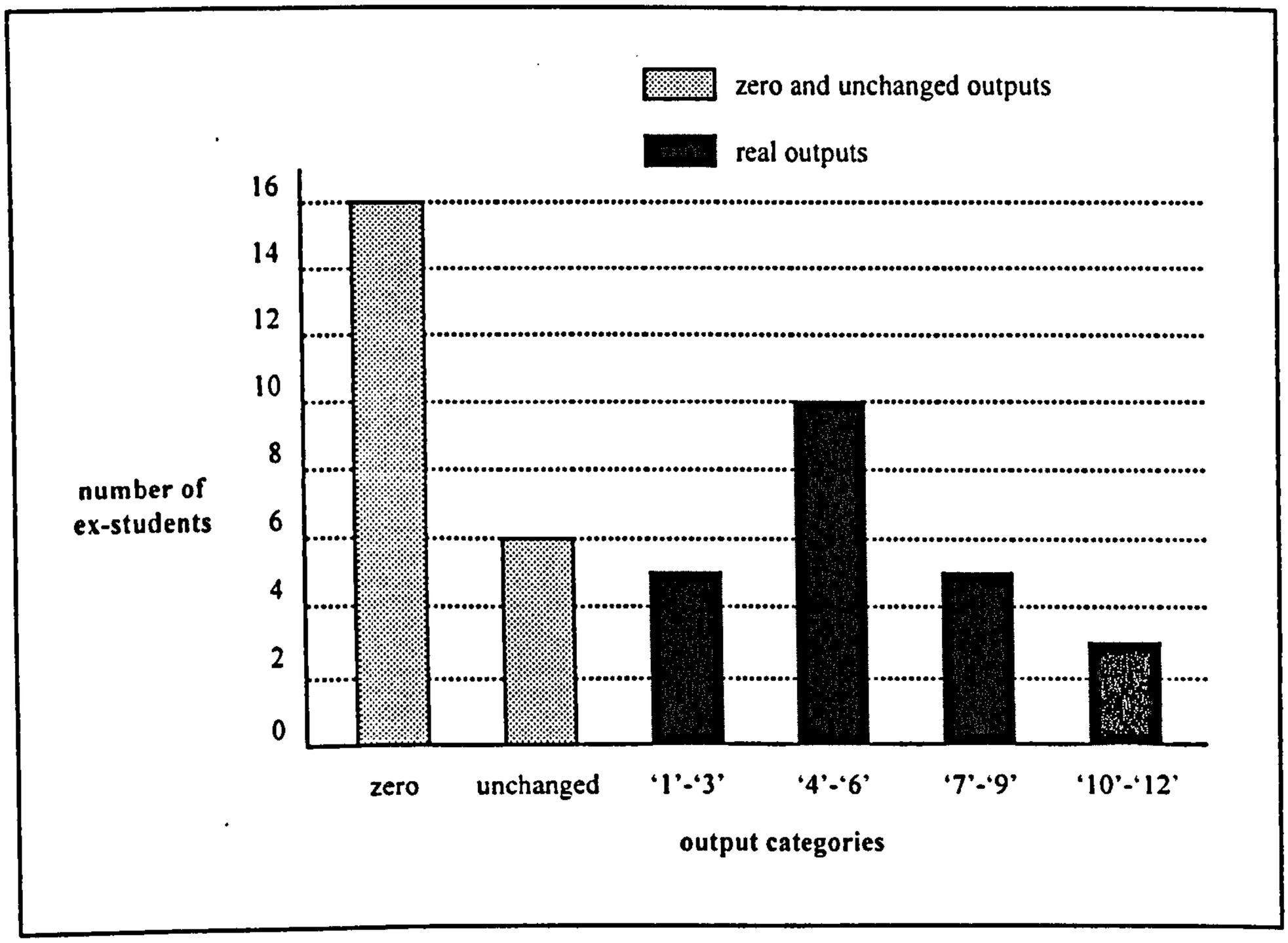
3.6 The output due to the course

In Section 3.2 output due to the TPHC course was defined as follows:

output due to TPHC = (post-course quantity of work) × (quality added by TPHC)

It was therefore now possible to work out a comparative value of 'output due to the TPHC course' for the 45 cases with validated information about quantity and quality of TPHC related activities. This was done as a simple arithmetical multiplication - producing a 'score' (or preferably an 'output category'). This product of quality and quantity is also a true reflection of the true nature of output, as was argued in Section 3.2. The product obtained in this way is again not to be seen as an absolute value for output, but rather as a means of ranking outputs. The following was found:

Figure 3.4 Distribution of output values achieved (N=45)



When zero outputs are excluded the distribution of output categories arrived at follows a more or less normal distribution, a pleasing indication of approximation to reality.

The outputs gained appear relatively modest, the highest output category being '12' from a possible maximum of '20' (although high scores could only be expected in cases with zero pre-course quality, an unlikely scenario since only experienced trainers were supposed to be selected). It should also be borne in mind that the baseline (phantom control) was in some cases probably set conservatively high, and only strictly corroborated evidence was accepted for post-course achievement - there may have been more output in some cases.

3.7 Variables associated with different outputs

By examining each story closely, factors may logically be identified which have a direct effect on output. This analysis and its results are dealt with in Chapter 5. There are however other variables which are indicators of one or more of these direct factors, and may be helpful in managing courses like TPHC better (for example by improving selection). The following were considered:

Table 3.10 Biographical variables analysed for association with output

variable	possible mechanism
sex	status and authority
year of course	time to achieve an output
age at entry	experience, status and authority - openness to change, motivation
country where working	educational traditions; availability of resources
profession	status and authority; rigidity of professional culture
expatriate/ not	available resources; status and authority
employer	flexibility of organisation

In this specific analysis three 'output categories' were used:

Table 3.11 Output categories used for analysis of association with biographical variables

• output real, fully validated	'real output'
• no output, zero teaching done, valid • no output, minimal teaching done, valid • no output, much teaching done, valid	'no output'
• real output partly validated • failure to achieve output partly validated • real and failed output partly validated • no validation of output at all	'uncertain'

The analysis of output in relation to these variables was not useful, since the large number of 'uncertain' cases made comparisons impossible. For example, in analysing the relationship between sex and output:

Table 3.12 Relationship of sex to the three output categories

	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• male	11	26%	4	10%	27	64%	42	100%
• female	12	27%	18	40%	15	33%	45	100%
	23	26%	22	25%	42	48%	87	100%

The apparent similarity in real output between males and females is meaningless since the number of uncertain outputs is so large:

- *Scenario 1*: 15 of the 'uncertain' males had a real output, and none of the 'uncertain' females → real output males 62%; real output females 27%.
- *Scenario 2*: 15 of the 'uncertain' females had a real output, and none of the 'uncertain' males → real output males 26%; real output females 60%.

The analysis for the other variables listed above is given in Appendix 5, but further discussion of the results would be meaningless. Only one deserves further comment:

Table 3.13 Relationship of country of work to the three output categories

COUNTRY OF WORK	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• West Africa	4	17%	4	17%	15	65%	23	100%
• East Africa	2	18%	3	27%	6	55%	11	100%
• Central Africa	2	11%	5	28%	11	61%	18	100%
• Southern Africa	3	30%	6	60%	1	10%	10	100%
• South Asia	10	48%	4	19%	7	33%	21	100%
• East Asia	2	50%	0	0%	2	50%	4	100%
	23	26%	22	25%	42	48%	87	100%

West Africa = The Gambia, Sierra Leone, Ghana
East Africa = Kenya, Tanzania
Central Africa = Zambia, Malawi
Southern Africa = South Africa, Lesotho
South Asia = India, Bhutan, Bangladesh, Pakistan
East Asia = Malaysia

According to this information the proportion of cases with uncertain outputs (real or zero) was lower in two areas, Southern Africa and South Asia:

- In the case of Southern Africa this was due to the fact that all respondents belonged to only two institutions. There were many opportunities for triangulation, which made it easier to corroborate outputs.
- In the case of South Asia there was much documentary evidence available with which to corroborate output.

If these findings are replicated in other evaluations, they may have a bearing on how sampling is done in future studies.

Having identified those cases where output could be determined with validity, and ranked them, it was now possible to consider factors associated with greater or lesser degrees of output - particularly 'entry'.

Chapter 4 The 'entry' process

4.1 Introduction

The selection of candidates by tutors is only one part of a more complex and more fundamental process which has its origin in the candidates' previous work situation. For the purposes of this discussion this process will be called 'entry' - 'selection' is too narrow a term. At the outset it was recognised that the 'entry' was bound to have an effect on the output due to the 'Teaching Primary Health Care' (TPHC) course, for many possible reasons. The involvement and agreement of employers could affect subsequent support; the involvement of the candidates could affect subsequent motivation; the fit between the course and the learning need could affect performance. A further reason for focusing on this area was that employers, sponsors and trainers have some control over it, which they would be able to exercise more effectively if they had a greater understanding of the processes and players involved. Accordingly it was one of the aims of the study to elucidate the 'entry' process into training, and to arrive at a way of categorising this process so that it could be related to the output due to that training. Overall there should be a clear logic to 'entry', following the rational process set out in Section 1.5.1 (WHO, 1976, pp.1-31).

The selection procedure

From course documentation and interviews with tutors it was ascertained that there were strict selection criteria for the course. These were:

- Candidates should be involved in, and would continue to be involved in, teaching. Attention was given to their:
  - * commitment to teaching as a career
  - * capacity for implementing new educational ideas
  - * ability to influence colleagues in matters related to training
- Candidates should have guaranteed funding.
- Since English was the sole medium of instruction on the course, candidates' command of English (written and spoken) should be good enough to cope.
- In addition, candidates were selected so that there would be a balance of nationalities and professional interests represented on the course.

Because it was felt that PHC staff are trained by teachers from a wide variety of backgrounds and disciplines, no formal academic qualifications were required (although it was assumed that the applicants would have the teaching qualifications required in their own countries). References were mandatory as a source of information about candidates, but were found through the years not to be particularly useful as indicators of suitability for the course.

The policy was to accept provisionally all suitably qualified applicants who had the necessary funding, and then select the final group at a Selection Committee meeting which took place six months before the course started. From 1980 onwards the course

organisers received many more applications than they had places for - this meant that they had to refuse places to people whom they would have liked to accept. There was a firm policy to restrict the number of students to 25, in order to maintain the amount of individual contact which the course required. After 1990 the number of suitable applicants dropped considerably, and late applicants were also considered as long as they fulfilled the criteria. From the available evidence the selection was fairly and logically done through the years - but it had perforce to be based on perhaps limited and biased information.

A variety of backgrounds and motives

As can be expected from any process which involves the movement of persons from several continents to a specific course at a specific time, there is a multitude of factors operating in any 'entry'. The complexity of these factors and their interactions varies widely; this variation is clearly observed in the present study. At the one extreme is the lucid simplicity of an example from Country 11, where the director of a paramedical training unit (himself a past student of the TPHC course) was about to be promoted and transferred. He made the necessary arrangements for his replacement to attend the TPHC course, since this person had had no previous training as a trainer [69]. At the other extreme is a case from Country 10, where an expatriate working in a bilateral programme gave what was perceived to be a firm undertaking of overseas training on a visit to a trainer in a paramedical school. The trainer spent five years writing letters, making visits, and spending much time and money in pursuing the matter (the expatriate having left the country shortly after the one visit). In the meantime a ruling had been passed by the government that only degree nurses were eligible for overseas study. After much personal lobbying and family intervention in high places government permission at state and national level was eventually granted. The funding agency acquiesced in this decision, and finally the student fled the country for the United Kingdom, with a cancellation order in hot pursuit [65].

4.2 Methodology

Information was obtained mainly from the ex-students themselves, during the extended interview. They were asked a trigger question to get them talking about what happened: 'Who decided that you should go on the TPHC course?' with probes following (Appendix 1). Further information was obtained where possible from the interviews with superiors and colleagues in the organization who had been involved in the 'entry'; from other ex-students - those in the same country, and those from the same year group, who offered spontaneous comments. Using all these sources the story of the 'entry' of each candidate was put together.

4.3 Findings: the relationship between 'entry' and output

The first step of the analysis of the data obtained was to attempt to establish associations between the way in which candidates 'enter', and the output they achieve after returning from the TPHC course. Each case was first analysed according to the logic of that candidate's 'entry', which was found to manifest itself in the following categories:

1	'Entry' was governed by an objective need for TPHC skills in the workplace to which s/he would be returning; this need was understood by all parties.
2	There was an objective need for TPHC skills in the workplace (i.e. training was going on) but the 'entry' was not ideal - for example, a local course would have done as well; not all stakeholders were agreed; training was only a small part of the ex-student's job.
3	The fit between the nature of the course and the subsequent job was misunderstood by those responsible for 'entry', so the ex-student was sent illogically; 'training' was not the primary need, but the mistake was in good faith.
4	The ex-student did not need the course for her/ his work, and at least some of the parties in the 'entry' knew this beforehand: there was a question of deviousness or bad faith.
5	The ex-student was interested in the subject matter (i.e. training) and hoped that the course would be useful to her/ him in future; there was no immediate need for it though.

When the 87 cases were analysed in relation to the output they achieved, the following was found:

Table 4.1 Logic of 'entry' in relation to output category

	output validated (N=45)						output uncertain (N=42)		total (N= 87)
	proven output (N=23)		zero output (N=16)		same output (N=6)				
logic of 'entry'	N	%	N	%	N	%	N	%	%
• fully logical	6	26%	2	13%	3	50%	17	40%	32%
• partly logical	13	57%	5	31%	1	17%	15	36%	39%
• illogical: mistaken	3	13%	2	13%	2	33%	3	7%	11%
• illogical: devious	0	0%	5	31%	0	0%	1	2%	7%
• hopeful	1	4%	2	13%	0	0%	6	14%	10%
TOTAL	23	100%	16	100%	6	100%	42	100%	100%

There appears to be a relationship between logical 'entry' and output:

- The ex-students with proven real output have predominantly logical 'entries', as do those who maintain the same output.

- On the other hand those with proven zero output contain a much higher proportion of illogical 'entries'.
- Interestingly the pattern of 'entry' logic of the group where the output is not proven resembles that of the group with proven real output. This raises the possibility that the majority of this group may have achieved real output as well. This is made more likely still by the fact that their stories did not contain the unequivocal evidence of zero output that those of the group with proven zero output had.

In the analysis following the 'logic' categories are grouped as follows:

- *logical*: including the previous categories 'fully logical' and 'partly logical'
- *illogical*: including the previous categories 'illogical- mistaken' and 'illogical - devious'
- *hopeful*: as before.

There did not appear to be any marked difference in the logic of 'entry' with respect to the following variables: sex, age at 'entry', and region of origin. Differences were however noted in the case of the variables: year of 'entry'; profession; nationality status; and employer:

Table 4.2 Relationship between logic of 'entry' and selected variables

N=87	*logical*		*illogical*		*hopeful*		**TOTAL**	
	no.	%	no.	%	no.	%	no.	%
year of 'entry'								
• 1980 - 1981	8	89%	1	11%	0	0%	9	
• 1982 - 1984	16	84%	2	11%	1	5%	19	
• 1985 - 1987	14	70%	2	10%	4	20%	20	100%
• 1988 - 1990	14	74%	3	16%	2	11%	19	
• 1991 - 1992	10	50%	8	40%	2	10%	20	
profession								
• doctor	1	17%	2	33%	3	50%	6	
• medical assistant	13	87%	2	13%	0	0%	15	
• environm. officer/ assistant	10	91%	1	9%	0	0%	11	100%
• nurse (registered/ auxiliary)	31	69%	9	20%	5	11%	45	
• other	7	70%	2	20%	1	10%	10	
nationality status								
• national/ refugee (1 only)	62	78%	15	19%	3	4%	80	100%
• expatriate	0	0%	1	14%	6	86%	7	
employer								
• State	48	80%	12	20%	0	0%	60	
• NGO	13	54%	4	17%	7	29%	24	100%
• bilateral programme	1	33%	0	0%	2	67%	3	

The following patterns emerge from this analysis:

- The most recent group of candidates showed a considerably higher proportion of illogical 'entries' than the previous year groups, which did not differ much from each other in this respect.
- There was a very low proportion of logical 'entries' among doctors, compared to the other professions, and a correspondingly higher proportion of 'hopeful' and 'illogical' ones.
- Expatriates and candidates employed by non-government organisations/ bilateral programmes contained a considerably lower proportion of logical 'entries' than nationals, and those employed by the State; also a correspondingly higher proportion of 'hopeful' ones.

Analysis proceeded by applying the process of qualitative analysis described in Section 2.9, to the data contained in each story of 'entry'. Three themes were identified around which to organise the information from all the stories: *motivation*, *information* and *organisation*. These themes also represent the chronological sequence of events: where, how and why the idea of 'entry' arose; how it happened that information was critically present at the point of decision making about 'entry'; and how the different players organised to bring about the actual 'entry'. The meaning of the findings in Tables 4.1 and 4.2 above is expanded in this way, in the following three sections.

4.4 Findings: 'Motivation'

In the 1980s Primary Health Care was in its heyday. From interviews with officials from Ministries of Health and non-governmental organisations it emerged clearly that a preoccupation with PHC during this period had an effect on 'entry'. Many countries and non-governmental organisations had at some stage prioritised both PHC and training for PHC: 'After the Declaration of Alma-Ata .. we were to be saturated in the training of PHC workers ..' [40]. This made the TPHC course a desirable commodity and made it easier to obtain sanction for attending it: 'I was picked by the Ministry .. at that time [country] signed the 1978 PHC treaty' [52]; candidates were sent '.. because we were the trainers in PHC' [26]. For example, there was one instance of a training institution which had been earmarked for development, so that trainers there were given priority for overseas courses: 'We were many; the Ministry had to make a choice. This College was a priority' [41]. Individuals were also caught up in the movement: 'I felt it was my need at that point: what is PHC? what should we be doing? I went to Liverpool with a vision of PHC' [86].

A significant finding is that in about half the cases the impetus for the 'entry' came from the candidates, and not from their employing bodies. Employers, consultants and sponsors together make up the other half. It is also significant that the actual managers only initiated about a quarter of the 'entries' - this being the group that could be expected in a perfect world to be identifying deficiencies in skills in their organisations, and sending suitable staff to acquire those skills:

Table 4.3 Initiators of the process of 'entry'

initiators of the 'entry'	no.	%
• self	40	46%
• employer/ superior	22	25%
• consultant outside organisation	10	11%
• consultant working in organisation	7	8%
• sponsor	6	7%
• other	2	2%
• TOTAL	87	100%

Optimally, all four parties found to be commonly involved in 'entry' (sponsors, employers, consultants and candidates) would be expected at least partially to share the same motivation. In reality a whole range of motives for 'entry' was uncovered.

4.4.1 The motives of employers/ superiors

A summary of the motives of employers and superiors is given in the table below. A distinction is made between primary and secondary motives - the latter were however not always present. This table serves to indicate the relative strengths of the different motives discussed in this section.

Table 4.4 Motives of superiors/ employers in the 'entry'

motives of superiors/ employers	primary		secondary
	no.	%	no.
• to increase the candidate's knowledge/ skills	40	46%	20
• to prepare the candidate for new responsibilities	21	24%	5
• the employer acquiesced as the candidate pushed	13	15%	0
• to motivate the candidate	4	4%	6
• political reasons	4	4%	3
• to implement a specific policy	2	2%	8
• other	3	3%	0
• TOTAL	87	100%	

The strongest primary motive employers or superiors had was in fact to improve the service that was being offered. This is true in cases where they initiated the 'entry': 'He decided I have to work on training, improve on training, I can contribute to the programme' [76]; and also when candidates brought a training need to their attention: 'I took my own initiative .. The Director wrote: select him .. This training is like a factory: raw product, process, and product. If the process is bad, the product is bad; if good, good' [78]. Most commonly the candidates were already functioning as trainers and it was realised that they had never had training for that: 'Because I'd not been trained as a teacher they felt I needed formal training to do a better job' [53]. Some organizations were consciously working within the TPHC paradigm of training, and superiors wanted new employees to be trained in that paradigm: 'Our whole community health worker project was based on the TPHC way of doing things. [The candidate] was taking over, so she had to learn that way' [62]. In other cases superiors wanted to prepare the candidates, either for an expansion or innovation in the service: 'They had decided, training has to be an important component, we have to have a training unit. We had to train one or two people to be good trainers' [63]; or to take over the superior's own position: '.. my principal - he wanted me to do that. He wanted to develop me' [69]. There were a few instances where the superiors simply wanted someone to back them up - either because they were trying to innovate and needed help: '.. we were working together .. I was teaching almost all the subjects - that's why the principal selected me' [70]; or because 'it's dangerous if only one is skilled, we had to provide a backup' [3].

A very important related motive was to prepare nationals to take over programmes which had been started by expatriates, often in bilateral programmes: 'Both of their view is that I need more training, then in absence of [expatriate team leader] I can work independently' [85]; 'The .. Americans, before leaving - so they were preparing us to take over' [56]. This was often in the original plan: 'it was in the plan that we should learn how to teach' [57]; '.. there's money for training .. so they sent us two ladies' [38]. They had to be empowered, to become 'polished enough'; 'to have background information .. a firm base' [37].

In many instances employers had to choose between a number of likely candidates. Where the decision was made at a level close to the workplace they were mostly guided by common-sense principles. Candidates were chosen who had shown promise and initiative in their work: 'They were happy with my work .. I had a long good reputation' [39]. Preference was given to seniors, all else being equal: 'Because I was one of the senior health assistants; seniors are selected first' [71]; but promising juniors also went: 'she showed potential and was sent' [6]. Nationals were sent rather than expatriates: '.. we were two or three RNs .. The other two volunteers couldn't get sponsorship because they were expats' [36]. Candidates were preferred who appear likely not to move on too soon: 'She chose me because I was the only professional nurse involved with the training of community health workers, and she felt I was committed to it' [61]. Another consideration was choosing someone who could reasonably be expected to pass the course: '.. they have to select people who won't fail' [70]. There is no doubt however that some degree of patronage influenced several decisions at this level: 'My dad knows [high official in the Ministry], so at the last minute I got sponsorship from the British Council' [21]; this was especially noted in two countries (3 and 10).

A few employers did not only have the technical aspect of the job in mind: motivation also figured in their reasoning. In some cases such motivation was on a personal level. For example, a young unqualified national was sent 'because I didn't have my education finished, a course outside would be good for my morale' (even though it was the wrong course for him) [77]. The TPHC course was seen as a consolation prize for candidates who wanted to attend courses which didn't work out: 'I'd hoped for a Masters in Public Health at Michigan .. I didn't have a first degree .. because I'd done well [superior] tried to get me on a short course' [29]. In some instances 'reward for service' was mentioned, for people who had served on a programme for a long time [27]. A related motive was found where relatively powerful superiors (often temporarily involved with a programme) clearly wanted to 'do something good' for a relatively humble programme member who had impressed them or taken their fancy: '.. she'd been recommended by [expatriate consultant] to go for more training' [6]. In one or two cases the sending was a last desperate effort to deal with a recalcitrant staff member: 'He used to give me a hell of a time' [3].

In other cases the motive was more overtly political. Candidates from a relatively humble cadre were sent in order to motivate their fellows nationally, by showing them that they did have career possibilities after all: '.. so we send people like [candidate] to show there are prospects of development' [4]. In other cases the sending was seen as an incentive, to keep good trainers in cases where salaries were low and private practice would be more lucrative: 'People don't like coming into the classroom in [country 2]. It's financially difficult' [7]. Non-governmental organisations also used this incentive where their career prospects were fewer than in the official sector [83]. Similarly those prepared to work in under-served areas were rewarded: 'There was emphasis on those working in rural areas being given preference ... there were very few prepared to work in [name of province]' [45].

4.4.2 The motives of candidates

A summary of the motives of the candidates themselves is given in the table below, again in order to indicate their relative strengths. It must be noted that all of these were explicitly given, not inferred by the researcher:

Table 4.5 Candidates' motives in the 'entry'

motives of candidate	primary		secondary
	no.	%	no.
• to increase his/ her knowledge/ skills	59	68%	4
• s/he went along with her /his superior's decision	11	13%	4
• to advance professionally	10	11%	20
• to go overseas	4	5%	9
• to increase skills; misunderstood nature of course	2	2%	0
• to earn money	1	1%	0
• TOTAL	87	100%	

Among the candidates themselves motivation very commonly had to do with gaining necessary skills and knowledge. This need was perceived in many different ways. Some had stated further training to be a precondition for assuming new responsibilities: 'I said I only accept if they send me for training somewhere' [54]. Others were already doing a job for which they had never been trained: '.. we were still not confident that we had enough skill and knowledge' [9]; 'I felt my teaching ability was not adequate, I must be a trained teacher' [72]. Some felt the need for additional standing which training would impart: 'We were asking for further training so we'd be a bit higher than those we were teaching' [48]. Some were responding to criticism of their work, which showed up their lack of '.. formal training in teaching; I didn't know what the hell an objective was much' [19]. Several felt they needed 'refuelling' [35] since they were out-of-date: 'I was fed-up, bored, frustrated ... the ten years I was teaching there was never any continuing education for me' [20]; or as another put it, 'This PHC concept was around, we in the colleges didn't know about it' [23]. A related but separate form of motivation was found predominantly among expatriate European candidates, who attended primarily out of personal, as opposed to institutional, need and interest: 'I hadn't a clue of teaching and felt an attraction to teaching; I felt it was a need for myself' [30]. One expatriate wanted primarily to learn English, and was persuaded that the best way to do this was to attend a health-related course in the United Kingdom [74].

A desire to advance professionally was also a motivating factor: 'It had been in my mind that I have to continue my education' [18]. Candidates were aware of their career needs: 'I was determined to succeed in my career' [20]; 'I knew my career was going more to teaching .. I needed more' [49]. Included in this was a consideration of benefit in terms of future salary: 'I want to look for better emolument and prospects' [81]. Some were also counting on saving considerable sums of money while in the United

Kingdom - from their subsistence allowance and from part-time work. This money was needed back home for domestic reasons: building a house, educating children, purchasing a television and so on [32]. Many knew though that a short course was not going to do much for them: 'The Director said .. "a three months' course is not eligible for promotion, don't get frustrated." I said it's better than nothing, I need the skill' [79].

This leads to a consideration of a further theme: the fact that the course was being presented overseas, in the United Kingdom. The status of an overseas course was an attraction: 'I had an intense desire to go' [64]. Some candidates had had adequate training as trainers in their own country or region, yet tried very hard to go overseas for more of the same: '.. learning here and in the U.K., there is a lot of difference .. also courses here are not recognised even by our government' [11]. But it was also the excitement of something new and wonderful, 'I was very pleased .. I wanted to be an international person' [69]. When ex-students were asked about their feelings on hearing that they were going overseas the word most commonly used was 'excited'; followed by 'happy', and then 'proud' and 'honoured': 'You were respected; the news would go out, "He's going to the UK!" It was a wonderful experience, you feel so big' [40]. These positive feelings were far stronger than the negative ones which are the other side of the excitement coin: doubts and fears about a new place - 'It was my first time of going - you didn't know what was going to happen' [15]; the first journey by air [48]; coping with the weather [64]; coping with the language [73]; feelings of self-doubt in relation to the course [61] and to Europeans in general [49] - in a word, 'I was going to a different land, how to conduct myself in a different environment' [46].

The feeling of excitement and the desire for more knowledge and skills were both there: 'I was going to get more knowledge on what I was doing, and I was going to England for the first time' [26]. At least in some cases the actual course content was of lesser importance: 'Two things were in my mind: to go out and train; if it was teaching, then fantastic' [50]; 'I was very happy, going overseas for the second time - but saying to myself, this is not the course I would have chosen' [24]. This feeling is linked to the spirited defence of overseas training which many ex-students put up later, when asked how they felt about replacing TPHC with equivalent local training: '.. you can't stop going there .. when you go away from your country learning is taking place' [33]; '.. truly speaking people won't value it much if it's here' [8]; '.. the name of Liverpool carries a weight; it boosts the students' [5]. A few had done their basic nursing training in the United Kingdom many years before, and were looking forward to returning: 'And I wanted to see changes in Manchester ..' [12].

A final small theme emerged concerning family and relationships. Several ex-students mentioned the pain of leaving their families: 'I was fresh married, two to three months, my wife didn't agree' [84]. Women with small children were especially affected: 'My two kids were youngish, my husband was busy .. my daughter pulled my dress at the airport: "Mummy, I want to go with you!" ' [51]; '.. the baby boy was only two years old' [44]. A few were looking forward to renewing relationships with persons living in the UK: family members - '.. my brother was in London' [23]; and in one case a romantic attachment from a previous course in England [24].

4.4.3 Multiple motives and expectations

As in other human transactions there were multiple motives operating in and among the different players involved in the 'entry' of each candidate. In one individual there might be a mix of wanting to learn new skills; the experience of going overseas: and the desire to get on in her career [20]. The same person's employer might wanted to inject knowledge and skill into the workplace, and to motivate the cadre to which the candidate belonged [3]. In terms of affecting the outcome of the course an ideal or optimum pattern of motives for 'entry' can be defined, as a matter of common sense: a situation where a principal motive of each player was the improvement of the training related service in which the candidate was working. The following were situations considered to conform with this optimum:

- Superiors who were looking for increased knowledge and skills for candidates, and/or their increased motivation.
- Candidates who were equally motivated by a desire to learn relevant skills and a desire to travel.
- Candidates who were equally motivated by a desire to learn and a desire to advance professionally.

Any deviation from this pattern could be expected to have the potential to affect output. The following correspondence of motives with this optimum was noted:

Table 4.6 Players' motives in relation to the optimum pattern for 'entry'

agreement between players' motives and the optimum	no.	%
• both candidate and employer/ superior in agreement	56	64%
• candidate acquiesced without a proper understanding	13	15%
• employer/ superior not in agreement	9	10%
• both not in agreement	6	7%
• candidate not in agreement: ulterior motive/ wrong understanding	3	3%
• TOTAL	87	100%

In the majority of cases the motives conformed more or less to the optimum. However approximately one third deviated from it - a substantial group. This deviation or conflict can be usefully described within two themes: conflicts related to the *relevance of the course content*, and conflicts in the *degree of commitment* to the 'entry'.

The first theme deals with the motivation of those candidates who, knowingly or unknowingly, went on a course which was not the right one for them. These cases can be ranged on a 'scale of villainy':

- The 'good guys' were those who either didn't know what the course was about or knew that it wasn't right for them, but really had no option. Some of these were simply instructed by their employers to go: 'I didn't know there was this course .. I was just given a week to prepare, my supervisor told me' [44]. They

did not know what the course was about right up to leaving: 'I was notified five days before the start of it .. No briefing before I left - a few minutes with [two ex-students]: "If you go, try as well as you could".' [4]. In one case the employers who made all the 'entry' decisions '.. had a wrong appreciation of what TPHC is .. They think it's PHC .. they said, "You're going to do a lot of work on PHC."' [47]. Several of these candidates achieved a reasonable output though.

- Among the 'opportunists' were those for whom the content was right, but who would have preferred a higher level of course - '.. at least I had something' [29]. A further group knew that the course was not completely right for them, but some of it was: 'My primary need was management of this PHC project - including skills of training; that was my second choice' [31]. Some had been trying hard for a long time and when the opportunity finally came they seized it with both hands: 'To be frank I wanted administration, that was my number one priority .. they sent brochures on CTCM&H and TPHC; I read and was interested, I accepted .. so give it a try' [14]. Some didn't know of any alternative: 'I liked it, there was no staring alternative available .. I didn't have much alternative - one is not well informed of the line of career one can make' [77]. Again, some of these candidates achieved a good output.

- The 'villains' were those who knew that the course was wrong for them before they left, but decided to go anyway, for the sake of going overseas: 'I said, whichever comes. If you wait for what you want you may miss altogether' [24]. Another was not training or working in Primary Health Care at all, but was induced by a friend who could no longer go to take her place at a interview with the sponsors (for which she boned up on what she had never practised) [68]. Within this same group there were those who had had sufficient 'training as trainers' in previous courses and knew it, but could not find it in them to pass up the opportunity for an overseas visit: 'He told me to prepare myself .. I didn't ask' [76]. One very odd 'villain' apparently did not want to go to a more suitable management course in winter, so TPHC (a summer course) was chosen for him '.. to give me a pleasant time' [64]. Only one of these candidates achieved an output.

The second theme deals with cases of discrepancies between the degree of commitment to the 'entry' displayed by the different players.

- At the one end of the scale is a scenario with a strong-minded and enthusiastic expatriate doctor, and a candidate who had some understanding but really did not want to go on the course: 'I didn't decide myself, I didn't even want to go. I was so embarrassed .. I was really in a mess-up, I was even in tears, but I had to go, leaving my young ones' [58]. Not surprisingly no additional output was achieved in such a case.

- Another situation concerns an enthusiastic expatriate consultant promoting the case of a willing but fairly junior candidate: '.. we did micro-teaching - [consultant] was there. After a month .. I got a letter'. At the same time the candidate's immediate superiors were not consulted. : '.. she'd been recommended by [consultant] to go for training, I didn't even know about it' [6]. No output was achieved.

- In the next group the motivation had shifted to rather lonely candidates, who approached sponsors themselves. Their immediate colleagues and superiors hardly involved themselves in the 'entry' - sometimes because they were themselves 'fighting for sponsorship' [20]. Closely related was the group, mostly of expatriates, who selected the course to meet a personal need, without reference to an organization or a group: 'It was my idea. I paid for it myself' [19]. Both of these candidates did achieve an output; another was confronted by massive obstructionism on her return and achieved nothing [23].

- At the other end of the scale were those self-motivated candidates whose desire was opposed by bureaucratic regulations, enforced by Ministry of Health officers: 'But I got chance [year], after so many time enquiring, I spent lots of time and money, my own initiative .. after forty years no-one is allowed to go .. Only BSc or MSc nurses could .. Somehow I managed to escape' [65]. The high motivation of this candidate resulted in a high output.

Finally a small, related theme: in cases where 'entry' was fully rational the players did not always share the same motivation. On several occasions there was a scenario was where superiors recommended a candidate who was not performing well [3, 5, 75]. For example, one supervisor's problem was that 'here is a man out of things for a long time .. If we can find a course that can give him confidence, put fresh thoughts and ideas in him ..'. The candidate on the other hand was more upbeat: 'I think what influenced [supervisor] and the rest was my performance ..' [13]. In only one of these cases an output was achieved.

4.5 Findings: 'Information'

Data were specifically collected about the way in which information about the course entered the decision making process; such information would be useful in understanding how this aspect could have contributed to optimal 'entry', or detracted from it. In interpreting the results of the analysis a potential sampling bias must be borne in mind: countries or regions containing substantial numbers of ex-students were selected (see Section 2.6.2). It is likely that this aspect of the sampling would skew the information obtained in this section - there is less information about isolated ex-students and more about groups of them.

These data were analysed in two ways: firstly to identify the immediate source of information for each 'entry'; and secondly to trace the origin and subsequent spread of the idea within a given geographical area, or between candidates themselves. The overarching question is whether inadequate information leads to illogical 'entry', and hence to a greater likelihood of poor output.

4.5.1 The immediate source of information for each 'entry'

A summary of the immediate sources for each 'entry' is given below. This gives an idea of the relative numbers of the different sources. In some cases the information about the course arrived from more than one direction. Only the principal source is given here.

Table 4.7 Immediate sources of information leading to 'entry'

Immediate sources of information leading to 'entry'	no.	%
• *individuals*		
* colleagues at work	14	16%
* superiors at work	13	15%
* consultants/ expatriates within the organisation	8	9%
* visiting consultants	3	3%
* friends	2	2%
* Liverpool School staff members	8	9%
* other	1	1%
• *organisations*		
* sponsors	18	21%
* employers	9	10%
* Ministry of Health	7	8%
• *no information*	4	5%
• TOTAL	87	100%

Among colleagues as sources of information about the TPHC course the most important group by far was those who had themselves attended the course, and were enthusiastic about it as a result: 'I met a young doctor [ex-student's name] from our mission; he told me' [28]; 'They recommended, they said it was best, they compared themselves to

students from other colleges' [59]. Rather fewer had attended another course at The Liverpool School (a Masters especially) and therefore knew about TPHC [60]. A smaller number still of these colleague-informants had only heard about the course [25].

A similar pattern was observed for the superiors of candidates. Some had been on the course: '[Ex-student] had been there. He was talking very highly of that course' [69]. One superior had attended a Masters course: 'She called me, she said, "There is a course, we'd like you to go, a new method of teaching."' [10]. A high number of expatriate workers was noted in this group of informants: 'Doctor [name] .. told me he wanted me to go to a course in Liverpool, because it's a good training centre' [58].

In a smaller number of cases the information came from evaluators and consultants from outside: 'Then this consultant - she suggested that the two of us should go .. she said, go to Liverpool' [37]. The number of candidates who learnt through personal friends was small but definite: 'I had the idea from a friend .. I got the address from her. She was in Liverpool ..' [15]. In one case an ex-superior (now a friend) had professional connections with institutions in the United Kingdom: 'I felt I needed training skills; I wrote to him. He's the one who chose Liverpool' [31].

Staff members of the Liverpool School of Tropical Medicine were a significant source, as well. Full-time staff informed locals while involved in consultancy work: 'She suggested to the team leader to send me to Liverpool' [75]. On one occasion a specific trip was undertaken to advertise the School's courses: '.. in 1979 we had a PHC seminar with [staff member] .. the Director was there as well' [36]. The most significant contribution in this group was however made by part-time, mostly non-British tutors on the TPHC course: 'I met [name of tutor] there. I told him I wanted to do community health .. He told me he goes to Liverpool once a year for this course; he recommended it' [22].

Among organisations which informed candidates the most active was one specific sponsor, the British Council: 'There was an advertisement from British Council here - they're willing to sponsor anyone going to Britain, especially on teaching' [80]; 'There were some documents about the courses from the British Council' [34] - not all of these sponsor-informants were British though. In other instances employing bodies had developed their own access to information about the course: 'We asked .. [headquarters] sent the information. We found it best' [63]. In some cases there was even a temporary culture of sending employees to the Liverpool School for training (this was in missionary groups and secular non-governmental organisations): 'A lot of [name of organisation]s go through Liverpool. Most have - they usually do CTCM&H' [30]. Some Ministries of Health also functioned in this way (countries 1, 6, 7).

It is not clear who exactly took responsibility for this information function within the organisations. For whatever reason, some individuals started promoting the course: 'He said, "There's a course started in Liverpool - you'd be an appropriate candidate." I asked for the forms; he gave them' [39]. These persons sent the information out as well: '.. the principal saw the need at the same time the Ministry of Health had sent him these brochures' [49]. In some cases, somewhere along the line, the information stuck in

someone's mind because of a personal link with the Liverpool School: 'I knew people who had been going to Liverpool from the past' [48]. Local offices kept course fliers: 'There are so many brochures in our office. I found the Liverpool one, I saw it will help me. So I chose mine' [73]. Another pattern (both for sponsors and Ministries) was observed during the routine annual allocation of opportunities for overseas study. The TPHC course was then considered along with any other courses which were known to any of those present at the decision making: 'You have to apply to the Ministry for courses .. there is a board there, at the Ministry of Health, the Ministry of Health, other ministries, sponsors' [14]. On occasion the brochures were picked up by candidates themselves from an available collection in an office: 'I saw about Liverpool in .. the programme office of the British Council in [capital city]' [32]. In very few cases the direct source was the Liverpool School itself, when candidates wrote to directly to it requesting general information about courses [1]. or when they were already at the School on another course: 'I got the TPHC information in Liverpool only' [34].

The position of the fliers themselves is an interesting one. They appeared mostly to have been the source of information for organisations - individual informers seldom used them in the first instance.

4.5.2 The original source and subsequent spread of information

A common phenomenon was that one 'entry' led to a cascade of further 'entries' from the same country, with information about the course, and its promotion, passing from a single source to more than one candidate. A few examples are given in Figure 4.1. Of the ex-students in the sample about two thirds were members of such cascades:

Table 4.8 Cascades of 'entry'

the way in which candidates 'enter'	no.	%
• first member of an 'entry' cascade	19	22%
• subsequent members of 'entry' cascades	39	45%
• candidates not part of an 'entry' cascade	29	33%
• TOTAL	87	100%

It must be borne in mind however that the countries in the sample were selected precisely because they had groups of ex-students in them, which means that the overall study population probably contains a higher proportion of 'single entries'. The significance of such 'cascades' is twofold:

- They could point to the existence of an influential person who supported what the TPHC course stands for.
- Since each 'cascade' contained ex-students, a correct idea of the true nature of the course was likely to be built up.
- They indicate the presence of a group of ex-students who were aware of each other, and could support each other in innovation.

Figure 4.1 Spread of information from the original source

original sources of information about the course (as far as it is possible to trace backwards)	**candidates getting their information from this source**
a tutor from the Liverpool School did a promotional visit which interested a person in the Ministry of Health; he also informed the local British Council office	→ two in 1980 → three in 1981 → one in 1982 → two in 1983
an expatriate on long-term consultancy, who was also a part-time TPHC tutor for a few years	→ one in 1985 → one in 1986 → one in 1991
a superior, who was an ex-student himself	→ one in 1985 → one in 1988 → two in 1990
an expatriate team leader, who was a past Masters student at the Liverpool School	→ two in 1986 → one in 1991
the Ministry of Health obtained brochures from Liverpool	→ one in 1980 → one in 1982 → three in 1985
the local office of the British Council	→ one in 1982 → two in 1985 → one in 1987

4.5.3 Briefing: pre-course information packs and candidates

When candidates passed the selection procedure, the course secretary immediately sent them an information pack about the course together with their acceptance letter. The course organisers attached a fair amount of importance to this pack; it was intended to inform candidates in more detail about the course, and also gave instructions to them about preparations they had to make and materials they were supposed to bring with them. Most ex-students had only a vague recollection of the pack, simply calling it 'brochures' [76], 'pamphlets' [38], 'leaflets' [68] or 'papers' [74]. A smaller number remembered details of it: 'There was a letter, yes, telling us what we were going to do' [42]; 'They did send some brochures which indicated modules; what books to read' [55]; 'After I read the course outline I had an idea' [18]; '.. they gave us the brochure, what you should be learning; ask us to bring things' [78].

Table 4.9 The fate of the pre-course information packs sent to candidates

the fate of the information packs	no.	%
• claimed never to have got the pack	21	24%
• got the pack but wasn't clear about the course	29	33%
• got the pack, was clear about the course	20	23%
• no information	17	20%
• TOTAL	87	100%

Interestingly about a quarter of the candidates either had not got the pack, or did not remember that they had. This is surprising, since the course secretary was the same person over the 13 year study period and the procedure never changed; and word of their acceptance on the course must somehow have reached them. Some definitely got nothing: 'When we got there we got all the information .. [TPHC tutor] asked us, "Didn't you get the information?" We said no' [52]. As a result 'I had no understanding. I got no materials, none' [66]. Others had at least seen the flier put out by the course organisers at some stage: 'They [the sponsor] gave me one leaflet' [82].

The two main reasons for this state of affairs appear to be firstly that the information reached those organising the 'entry' - superiors and sponsors - who then failed to pass them on to the candidates in time: 'When I reached [capital city], the day I was leaving - the British Council gave me the papers from [the course secretary]' [47]. Secondly, and related to the first reason: for some candidates the 'entry' was an awkward, hurried, last-minute affair; not surprisingly the material got waylaid somewhere in the rush, and some of those candidates departed 'totally confused', expressing the feeling that 'I'm not prepared, I have no idea' [4].

Of those who remembered getting the pack just under half felt they had been well informed about the course: 'A lot of literature was sent before, so I knew' [2]; 'I think I was quite clear' [28]. These candidates took the trouble to go through the material properly: 'When I received the letter from them I went through the details: what I needed to collect and so on. I was clear on the course' [31]. One liked the presentation: 'I liked what I found in the brochure - it was attractive' [30].

A full third got the pack but claimed not to have been well briefed by it - reactions ranging from 'I had a rough idea of the contents of the course' [16] to 'We were given those forms but we really didn't know what was going on' [37]. Several reasons for this state of affairs can be deduced from comments the ex-students made. For some the documents were not pitched at the right level: 'There was a brochure, but at that time I was so raw' [53]; 'I was sent a brochure but I wasn't clear .. when I read them now they're adequate' [59]. Such candidates find it hard visualising what is intended: 'I got papers from there, but it's difficult to imagine what it will be' [74]. One felt that the information underplayed the difficulty of the course: '.. it was very clear from the brochure, but the actual course I found a bit of a marathon to say the least ..' [30]. It cannot only be a matter of the attention given to the documents; some of those who

were very clear about the different components of the pack felt they had been well briefed and others not. This personal element is illustrated clearly by two colleagues from the same unit who attended the course together: one was 'quite clear' [27], the other 'just knew it was training and PHC' [26]. It is likely that some candidates don't pay much attention to the pack: '.. I don't remember if I went through it, or how seriously I took it' [63].

As a result the majority of candidates did not have a clear understanding of what lay ahead of them: 'I didn't know exactly' [60]; '.. one percent of what was going on there' [85]; 'I didn't know what it was about .. It was a good surprise!' [36]. Most did have the clear understanding that it was a 'training of trainers' course: 'I knew it had to do with teaching' [8]; '.. the overall idea was for me to learn how to teach' [53]. The course title itself is important here - it is reflected in many of the comments: 'PHC teaching, that's all' [58]; 'I only knew it was for people from developing countries, engaged in PHC, to come back and teach' [11]. In some cases 'There was some confusion if it was "training of trainers" or health' [63]. Others had real misconceptions about the nature of the course: 'I thought it was more PHC, what to teach, rather than teaching' [86]. It is to be expected that such confusion about the nature of the course should lead to inappropriate 'entry', which in turn is associated with less likelihood of an output.

There was less briefing of candidates before departure than one might have expected. Briefing was done by colleagues who were ex-students; by superiors (some of whom were ex-TPHC or Liverpool School students); and by part-time TPHC tutors. In several cases ex-students were working in the same unit, but for some reason there was no proper briefing between the candidate and the ex-student in the period leading up to the departure: 'I didn't speak to [two ex-students]' [12]; 'No briefing before I left - a few minutes with [two superiors, both ex-students] - "If you go, try as well as you could"' [4]. In other cases a proper briefing was done: 'I got nothing from Liverpool. [Ex-student] was the first to go, I went to talk, he gave me old lecture notes, a thick one, a portfolio' [81].

Sometimes those who were briefed didn't find it particularly useful: 'I only met [ex-student] two days before I left, he didn't explain fully to me' [10]. Others got a better idea: '.. [expatriate superior] told us everything about the content' [84]; 'She [part-time tutor] knew of the course. I really knew what TPHC was about' [7]. Communication was a problem in two interesting cases, where the superior had a good long chat with the candidate and felt the briefing had been thorough; the candidates' recollection of the same discussion was different - in the words of one of them, only resulting in 'a hazy idea' [60, 62]. The briefing provided at least some comfort to yet others: '.. she gave me some idea - she relieved my mind, she says it's not heavy' [65]. A few appreciated the briefing they got from the sponsor, for the same reason: 'All the fears were taken off when we met the British Council, they briefed us ..' [49].

4.5.4 The choice of the TPHC course

The persons who made the decision about applying for a course had to make a choice; in terms of the width of choice available the following appears:

Table 4.10 The choice open to those making the decision for an 'entry'

the choice open to those deciding about an 'entry'	no.	%
• no choice - only TPHC was known	39	45%
• chosen from a wide selection of courses	28	32%
• chosen from Liverpool School courses only	15	17%
• no information	5	6%
• TOTAL	87	100%

In this particular sample the most significant finding in respect of choice of course is that relatively few candidates had any choice at all in the matter of which course they would attend. The following must however be borne in mind in this situation:

- The bias of a sample rich in clusters of ex-students.
- No other institutions could be traced in the United Kingdom, which were consistently offering three month competency skills based 'training of trainers' courses for trainers of PHC workers, during the 13 year period covered by the study.

For a large number the decision was made for them by their sponsor and/ or employer - non-governmental organisations, Ministries of Health and groups like the British Council: 'I didn't choose TPHC - the British Council chose it for me' [24]; 'I never made application for this course - it came of its own to me' [66]. In fact, in the approximately one third of cases of 'entry' where there was a fair width of choice of course, it was the sponsoring body (and less often the employer) that had the wider view and made the choice; the candidates were pretty passive: 'Headquarters sent the forms. When you fill in the forms you don't even know what you'll be doing. Later when they send the details then you know what you filled the forms for' [50]. In one example, candidates for a yearly selection process were called together and then '.. it was like, "You four write TPHC, you four write that" ..' [68]. Some few employing organisations had a wider choice, but many were specifically advised by consultants [87], or had developed the culture (mentioned earlier) of sending their staff members to TPHC. The employers themselves sometimes left the selection to the sponsor: 'She [superior] waited for the British Council to tell us where they'd found a course' [61]. The success of such selection clearly depended on the degree of insight that the superiors or sponsors had in the nature of the organisational need, and the nature of the TPHC course. Where they lacked such insight the choice of an unsuitable course was more likely.

In only a few instances some of these bodies did encourage employees or individuals who approached them to make their own choices: 'She showed you a number of brochures' [82].

As might be expected, a principal consideration in selecting a course was to match up the perceived training need with the courses on which information was available: 'a need that I went to do a course .. I was coming back to teach PHC workers' [40]. The reputation of the Liverpool School was also cited as a reason for choosing its courses: 'Liverpool is known to be a place of excellence' [48]. Another consideration was the cost: 'This three month course was not very expensive' [83]. Some were constrained because their cadre was not granted admission to local courses: 'The only venue we had was [place], only nurses, a closed door for us, I had no midwifery certificate' [79]. The time of the year had to be considered: 'I was free in summer vacations' [85]; and personal matters were also a factor: 'I was four months pregnant, only that one was available. Another .. I'd've had to deliver over there' [82].

Even those who applied for admission themselves mostly had very little choice. Most had heard of only TPHC, through friends and contacts; then having heard, 'I liked it, there was no staring alternative available' [77]; 'I didn't look out for others' [19]. Several only contacted Liverpool as a training centre, and therefore only obtained fliers about Liverpool School courses [1]. One knew about one other course at another institution and had obtained admission to it, but 'The Ministry of Health then said: Liverpool' [43].

In summary: in a significant number of cases information about the course was not effectively communicated to all the interested parties before they left, for a variety of reasons. This could and did lead to illogical 'entry'.

4.6 Findings: 'Organization'

Two principal activities had to be undertaken more or less simultaneously for every 'entry' - finding a sponsor; and applying to the Liverpool School for admission to the course. It was decided to focus on these aspects in the analysis, since they give an indication of the commitment and involvement of the different parties in the 'entry'. A third theme for analysis was the orderliness of the 'entry': it was noted early on during the follow-up that the process through which some candidates came was fraught with last-minute snags and crises, which might be an indication of illogical 'entry'.

4.6.1 Obtaining a sponsor

Although the impetus for 'entry' came from candidates in about half of the cases, it is clear that most of these subsequently had to work through their employers to obtain a sponsor:

Table 4.11 Ways of obtaining sponsors

ways of obtaining sponsors	no.	%
• the superior/ employer found a sponsor	51	59%
• employer became sponsor	10	11%
• the candidate found a sponsor	9	10%
• the initiative came from the sponsors	8	9%
• superior and candidate together found a sponsor	4	5%
• several individuals/ groups together	3	3%
• the candidate was self-sponsored	2	2%
• TOTAL	87	100%

In a small number of cases the sponsors took the initiative. Sometimes they advertised directly to potential users: 'There was an advertisement from the British Council here - they're willing to sponsor anyone going to Britain, especially on teaching' [80]. On other occasions regular sponsorships for further study were included in a wider cooperation agreement: 'There is a provision in the project for training people who are there' [37]. Superiors then nominated candidates, or candidates put forward their own names, for consideration in the yearly selection process (where in some cases patronage clearly operated): 'One of his relatives is a very big shot with our Chief Minister' [64].

More often however sponsorship was sought by superiors, either on their own initiative, or at the request of the candidates: 'I spoke to [superior], she looked' [2]. Several distinct patterns presented themselves here. Most commonly the candidates and their superiors were part of a bilateral programme; having agreed on the need for the training, the superior approached the bilateral sponsor for specific funding: 'They had a tough time convincing [sponsor] that we need to go to Liverpool and no other place' [56]. A rather similar situation occurred where the employer was a non-governmental organisation, and the organization's head office was approached [84]. In situations

where candidates were working for the Ministry of Health, the approach was made to sponsors through the official Ministry channels: 'When I pushed it to the Ministry of Health they found the [bilateral sponsor]' [43]. In very few cases the responsibility for approaching sponsors was shared between candidates and superiors [60, 62]. In all these patterns one sponsor, the British Council, featured prominently.

The number of candidates who arranged their own sponsorships was relatively small. Some - very few - were self funded: 'I paid for it myself' [25]. Others approached known sponsors directly: their own organisation, which was known to sponsor training: 'I asked the diocese of [capital city]; they agreed' [22]; and bilateral agencies: 'There was a gentleman .. he was in charge of [bilateral sponsor] programmes. I talked to him' [42]; 'I wrote to the [sponsor] branch in [regional capital]; the officer he was also coming here' [34]. In a final group of cases candidates, or persons acting on their behalf, bypassed the usual channels and approached very senior Ministry officials personally; these persons took the necessary steps to find sponsorship for them: 'I went straight to the Secretary for Health who arranged it' [23].

4.6.2 Obtaining admission to the course

Only about a quarter of candidates are actually known to have obtained the course application forms from the Liverpool School themselves. The picture which emerges is again one where meaningful action was taken less by the candidates and more by employers and sponsors:

Table 4.12 Ways of obtaining application forms for the course

ways of obtaining application forms	no.	%
• Ministry of Health/ employer obtained	38	44%
• sponsor provided	20	23%
• candidate, from home	18	21%
• candidate, in Liverpool	3	3%
• colleague helped	2	2%
• unsure who obtained	6	7%
• TOTAL	87	100%

Application forms for the TPHC course were usually obtained by others, on behalf of the candidates. As is indicated in the table above, employers very often fulfilled this function: 'Headquarters sent the forms' [50]. On these occasions it was sometimes the immediate superiors of the candidate who got the forms, on behalf of the organization: 'She had some forms for me to fill in, with [tutor's] name on' [55]. Sponsors similarly provided the forms: '[Sponsor] found a place and sent forms for TPHC, to fill in quickly' [35].

In the majority of cases the candidates simply went along with the steps taken on their behalf by employers and sponsors. Even though some of them had started the ball

rolling by enquiring, they were presented with a *fait accompli*: '.. these things we don't hear about. They got the application forms' [9]. Most commonly the organisation or sponsor obtained or supplied the application forms, and the candidate was then expected to complete them: 'The Department did it all. Then from Liverpool I got the forms, I filled up ..' [72]. In some cases even that was carefully supervised: 'After three or four months a letter to go for form fill-up, photograph, documents - I went to the [bilateral sponsor] office' [67]. In some (few) instances it is doubtful whether the candidates ever completed the forms: 'They got the forms for us, they did all the correspondence for us' [56]. On one or two occasions friends (who were also senior colleagues) did everything: 'He even applied for me - and then Liverpool sent me the information' [31].

On the other hand there were those candidates who obtained their own application forms and made their own applications. Some did so completely independently: 'I did the application myself. I got admission, everything ..' [21]. Others did so with the knowledge and encouragement of their employers: 'The College had given us the green light that we should apply for courses on our own .. When I received the letter of acceptance from Liverpool I presented it to the Ministry of Manpower' [41]. Some worked as a team with their superiors: 'He applied for funding, I applied for placement' [59]. There was a special case - that of candidates who only applied for the course once they were in Liverpool on another one: 'I went to see [TPHC tutor]. I said I was interested, I asked if he could brief me' [13].

4.6.3 The orderliness of 'entry'

A well organized 'entry' would be one where a candidate had applied for admission and sponsorship well in advance; where sponsorship was arranged and admission secured several months before the course, leaving ample time for personal, travel and accommodation arrangements to be made; and where candidates had sufficient time to read preparatory materials and to discuss the coming study with colleagues and superiors. In view of the potential complexity of the process, it is somewhat surprising to find that relatively few candidates encountered major hitches:

Table 4.13 The orderliness of the 'entry' process

the orderliness of 'entry'	no.	%
• more or less well organised	67	77%
• part of process rushed/ chaotic	6	7%
• many bureaucratic obstacles	4	5%
• first told shortly before departure	4	5%
• applied while in Liverpool on another course	3	3%
• process long and drawn out: several years	2	2%
• last-minute sponsorship problems	1	1%
• TOTAL	87	100%

Approximately three quarters of the candidates departed in a more or less orderly fashion, as in the following example. He knew of the course through a colleague who had been a few years before: 'The course was very helpful according to him, that's why I applied.' Having seen a sponsor advertisement he applied through his immediate superior and the director of the institution to the sponsor - 'Then they called me for interview.' After an interval 'they wrote me a letter' confirming that his application had succeeded, and giving all the necessary details. He departed uneventfully [80]. Some of the very well organised 'entries' also included a briefing by the sponsor before departure: 'We were given lectures by the British Council. We were told, they advised us about conditions of life in the U.K.' [17].

Problems did however arise at various stages of the 'entry' process. In a few cases the process was very long and drawn out, due to bureaucratic rules and regulations which made 'entry' so complex that only motivated and persevering candidates (and sponsors) managed to work through the obstacles - 'From 1976 to 1984 [capital city] blocks it - no-one goes, the money lapses' [87]. More commonly one or more stages had to be rushed. The selection or screening was sometimes very haphazard, with candidates being allocated to courses which were not a priority for them [64]. In other cases the whole process of selection and application took place without the knowledge of candidates, who were simply informed shortly before the course started to prepare themselves to go: 'That week I was busy preparing, filling in forms, running around ..' [44]. An 'eleventh hour' rush may have happened more often than it was reported: '.. terrible last minute rush jobs. Every time it happens the same!' [87]. Again the bureaucracy sometimes simply couldn't (or wouldn't) cope - as witness the classic comments: 'I couldn't get official order to leave until after I left' [67] and 'Somehow I managed to escape. In government one of my relatives is deputy secretary. I went straight when I heard the cancelling order coming .. I did everything in 5 hours' [65]. One had last minute health problems, ascribed to tension caused by the poor organisation: '.. my blood pressure shot up ..' [62]; one had last-minute problems in obtaining sponsorship [21]. In some cases candidates only applied once they were in Liverpool for another course; negotiations with employers (and in some cases with sponsors too) had to be conducted at a distance: 'So I wrote through British Council to my donor in [capital city], I'm very interested, I'm not sure of the training I'd had, this seems just right' [32].

In summary, the orderliness of 'entry' seems to have borne no relationship to subsequent output. In fact some of the most blatant examples of illogical 'entry' [14, 15, 24] were perfectly orderly, whereas some real achievers had a fairly chaotic experience [62, 65, 67].

In this chapter the nature of the 'entry' process was discussed, as well as its effect on output. The following chapter examines the data dealing with other influences on output.

Chapter 5 Factors influencing output

It was not possible to determine the association between output and factors that might affect it mathematically, due to the high proportion of uncertain outputs. This problem was discussed in Section 3.6. However the case study methodology employed makes it possible to identify them, by scrutiny of each story.

5.1 Identifying the factors

One of the principal aims of the study was to determine the factors which influence the output of ex-students, as they try to apply what they have learnt on the 'Teaching Primary Health Care' (TPHC) course. The case study methodology made it possible to identify factors which influence output, by logically investigating the stories of what happened to ex-students upon their return - those events or circumstances which helped them to use, or stopped them from using what they had learnt.

It should be emphasised again at this juncture that performance of ex-students while on the course was not taken into account as a factor, because the marks awarded to them were not available for several of the cohorts in question. Interviews with past tutors gave a good indication however of the performance of 71 of the 87 ex-students, but the lack of agreement between performance and subsequent output was immediately evident:

- Some ex-students with high outputs barely got through the course, having (even by their own admission) battled to cope with the course material.
- Equally, ex-students remembered for their outstanding performance in Liverpool achieved little or no output subsequently.

Only 71 of the 87 cases were used for the analysis of factors affecting output:

- Those where there was a fully validated real or zero output (45 cases). In such cases the effect of a factor on the output could be logically deduced.
- Those where part of the output was fully validated, and it was possible to identify factors which clearly affected the validated output (26 cases).

Cases where no output could be validated were not used, since a judgement of the effect of a factor on an uncertain outcome would be guesswork.

Each selected story was then carefully scrutinised, to determine the factors operating on output in that particular case. This was done in the following sequence of steps:

- A detailed story of the case was prepared, clarifying large and smaller events.
- All information about factors which influence output was extracted, numerically and in the form of quotations.

An example of both analyses is given in Appendix 4. The detail of the numerical analysis is discussed in Section 5.2 below.

Only factors that were clearly mentioned in the story were noted - not those that could be inferred to be operating, since that would again have introduced an element of

subjective bias on the part of the researcher. Commonly recurring factors were extracted by using the qualitative technique of immersion and identification of themes. It was found that these related broadly to many of the particular factors identified in the literature. However the data produced its own themes, which were then fitted into the broad classification of Morrison and Brantner (1992). This new classification is given in Table 5.1 below.

Table 5.1 Factors influencing output due to the TPHC course

Area 1	**Work related factors (i.e. the work situation)**
factor 1.1	The *power* or *authority* the ex-student has in her/ his work situation
factor 1.2	The *support* the ex-student gets as s/he tries to effect change
factor 1.3	The *resources* available to the ex-student to do innovative work
factor 1.4	The amount of *time* available to the ex-student within his/ her job, to do TPHC related work properly
Area 2	**Job related factors (i.e. the nature of the job)**
factor 2.1	The *relevance* of the work to TPHC content (how much it has to do with training)
factor 2.2	The *openness* of the job to TPHC concepts and ideas
Area 3	**Factors related to the environment**
factor 3.1	The influence of policies and interests generated *outside* the ex-student's work situation
factor 3.2	The influence of the ex-student's *family and health*
Area 4	**Personal factors**
factor 4.1	The degree to which *self-efficacy* in TPHC related concepts and skills is present in the ex-student
factor 4.2	The effect of the ex-student's *background* on her/ his ability to profit by the course, and achieve self-efficacy
factor 4.3	The *morale* of the ex-student in her/ his post(s)
factor 4.4	The *motivation* that the ex-student seemed to have gained from the course and maintained for a while after returning home
factor 4.5	The ability of the ex-student to function as an effective '*agent-of-change*', in situations where there is resistance to change

Having identified the four areas and thirteen factors, further scrutiny of the cases showed that each factor expressed itself in different ways in different situations: For example, Factor 3.3 'Morale' included the following expressions:

1	the ex-student is doing well professionally in a TPHC related work situation
2	the ex-student feels bad about her/ his present situation, but is staying there
3	the ex-student is uneasily working in a TPHC related situation, and is looking for a change in order to advance professionally
4	the ex-student left a TPHC related work situation because s/he felt there was little professional future in it/ was frustrated in it

In summary, the factors which influence output due to the TPHC were grouped according to the following system:

AREA → FACTOR → EXPRESSION

The expressions of each of the 13 factors are given together with the results of the analysis which follows in Section 5.3 below.

In view of the vast differences between ex-students in the study population (and the sample) it was decided at the outset not to attempt personality classifications to use as a variable, since these are culturally determined, and different situations will in any case favour an output by different personalities. Two examples:

- A very diffident ex-student, who hardly passed the course, did extremely well back home, producing a high quality output [82].
- A high flying ex-student found the course a bit beneath him: 'I came with ten years of PHC training. experienced; there were people who'd been in hospitals all their lives, who had never done any training. At times I was as frustrated as hell.' The TPHC quality of his output however was poor [19].

5.2 Method of analysing the factors

It was found that each of the 'expressions' above could exert its influence in different ways:

1. The influence could be *positive* (+) or *negative* (-): for example, for Factor 3.3 ('morale'), the effect of the second expression ('the ex-student feels bad about her/ his present situation, but is staying there') could affect output positively (making the ex-student try harder to improve the situation) or negatively (making her/ him give up and accept the unsatisfactory *status quo*).

2. Differences in *strength* of the influence: the factor might have affected output a lot, or a little:

3	the single most important factor affecting output
2	an important factor, not *the* most weighty
1	a less important factor, only affecting output a little
0	of trivial importance only

These two aspects could logically and usefully be combined in a mathematical model, as follows:

+3 = a very strong positive effect +2 = an important positive effect +1 = a weak positive effect	-3 = a very strong negative effect -2 = an important negative effect -1 = a weak negative effect
0 = a trivial effect (positive or negative)	

Here the mathematical value parallels the strength (weak, important, strongest) of the effect (positive, negative) that a factor has been shown to have on output. This model makes it possible to add the overall effects of a factor, for a given group of ex-students under consideration, so that those can be compared to the effects of another factor on the same group. As an example, the results of analysis for all expressions of factor 3.3 ('morale') in the 71 cases are given in Table 5.2.

Table 5.2 The overall effect of the factor 'morale' on output in 71 cases

	a: grading	b: no. of cases with this grading	c: a x b	total effect of factor 3.3 on output: add c's
negative effects	very strong (-3)	2	-6	total negative effect: -33
	strong (-2)	9	-18	
	weak (-1)	9	-9	
	trivial/ combined* (0)	0		
positive effects	very strong (+3)	0	0	total positive effect: +3
	strong (+2)	1	+2	
	weak (+1)	1	+1	
		factor 3.3 has an effect in 22 cases		total combined effect: -30

* In a few cases a given expression of a factor affected output both positively and negatively; in such a case the effect was noted to have occurred, but judged to have a mathematical value of zero.

Clearly no absolute value can be attached to these numbers, but they do provide a logical basis for comparison.

In order to conclude meaningfully which of these factors operated most frequently and most strongly, the following method was therefore adopted:

Step 1 In each case where a factor was found to be operating it was analysed according to the aspects described above - for example Case 32:

This ex-student found herself in a job where the pressure was very high, and at the same time recognition of her individual efforts was low - whether she applied TPHC well or not was not considered at all, as long as she met her deadlines. Her morale was low, but she stayed on in the job because it was financially considerably more lucrative than the alternative, working for the State health service. This low morale had a negative effect on her output, but much less strongly than the fact that her job did not primarily have to do with training.

The analysis therefore:

- area - a *personal* factor: code 3
- factor - related to *morale*: code 3
- manifestation - the ex-student feels bad about her/ his present situation, but for various reasons is 'hanging in there': code 2
- the effect is *negative*: code '-'
- the effect is *weak*: code 1.

Step 2 The effect was summarised for that factor (for all 71 valid or partially valid cases, or for subgroups of them), using the mathematical model described above.

The table below summarises the number of cases in which each factor operated, and the overall effect on output of that factor. The effects for all expressions of that factor are grouped together.

Table 5.3 Summary: the effect of factors influencing output due to the TPHC course

area	factor	no. of cases affected	total positive effect	total negative effect
work	1.1 authority	35 (49%)	+35	-26
	1.2 support	45 (63%)	+37	-27
	1.3 resources	43 (61%)	+32	-23
	1.4 time	19 (27%)	+1	-22
	total	142	+105	-98
the job	2.1 job relevance	58 (82%)	+77	-56
	2.2 job openness	53 (75%)	+53	-51
	total	111	+130	-107
environment	3.1 outside events	31 (44%)	+9	-46
	3.2 family & health	8 (11%)	0	-13
	total	39	+9	-59
personal	4.1 self-efficacy	40 (56%)	+49	-23
	4.2 background	23 (32%)	+19	-24
	4.3 morale	22 (31%)	+3	-33
	4.4 motivation	26 (37%)	+22	-26
	4.5 agent-of-change	18 (18%)	+11	-11
	total	124	+104	-117

The table gives an indication of the relative importance (frequency and size of effect) of the areas and factors affecting output due to the TPHC course. The areas of work, the job and personal factors all appear more or less equally important, with environmental factors much less so. Regarding individual factors the relevance and openness of the job top the list, with authority, resources and support at the workplace, as well as self-efficacy, following fairly closely.

5.3 Analysis of the effect of each factor

In order to understand the effect of the different factors and their expressions as fully as possible, it was decided to proceed with the analysis on three levels:

a. *Expressions*:
Giving the expressions of each factor, as they presented themselves in the data.

b. *Quantitative analysis*:
- Summative: To show the relative frequency and strength with which each factor had an effect on output. All 71 cases mentioned above could logically be used for this analysis. The method in Section 5.2 above was used to calculate the effect of a factor or its component expressions.
- Comparative: To compare and contrast the factors/ expressions associated with cases with real outputs; with zero outputs; and with unchanged outputs (see Table 3.2). Only the 45 cases with fully validated outputs (real or zero) could logically be used for this analysis.

c. *Qualitative analysis*:
To explore the mechanisms by which the factors/ expressions affect outcome. Only the 71 cases mentioned above could logically be used for this analysis.

The findings make it clear that the separation of the factors into separate categories is in a sense artificial - there is a degree of overlap between for instance, 'Authority' and 'Openness'. Other examples of such overlap appear below. It was decided however that it was necessary to tease out particular strands within the complexity of the whole, in order to understand it more fully.

Area 1 Work related factors

Factor 1.1 AUTHORITY: the power or authority the ex-student has in her/ his work situation

a. *Expressions*

1	a situation where the ex-student is practically speaking in charge of the TPHC related work, and has freedom to innovate
2	a situation where the ex-student has some authority, but has to negotiate with powerful others to effect change
3	a situation where the ex-student is fully subordinate to others, with regard to TPHC related work - but her/ his new skills are recognised and used
4	a situation where the ex-student is fully subordinate to others, with regard to TPHC related work - and her/ his expertise is ignored

b. *Quantitative findings*

Table 5.4 The effects of the factor 'authority'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Authority'	35 (49%)	+35	-26

N=45	proven output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = in charge, can innovate	9	39%	+18	1	6%	+1	0	0%	-
2 = has to negotiate space	4	17%	+4	0	0%	-	0	0%	-
3 = subordinate but used	3	13%	+7	0	0%	-	0	0%	-
4 = subordinate, not used	2	9%	-3	6	38%	-10	1	17%	-1
TOTAL	18	78%	+26	7	46%	-9	1	17%	-1

The 'authority' factor affected output in about half of the 71 cases under consideration; overall the effect was somewhat more positive than negative. There is a clear difference between ex-students who achieved proven output, and those who achieved none:

- The 'proven output' group included a higher proportion of ex-students with their own authority to innovate, and some who operated as subordinates, but whose new skills were used.
- The 'zero output' group included a much higher proportion who were subordinate, and whose new skill was not used.

c. *Qualitative findings*

Some ex-students found themselves in positions where they were in charge of training activities, and had the authority as well as the technical ability to innovate. A highly productive head of a training school for health workers in a small country had '.. no problem designing curricula or training programmes, it is entirely in my capacity' [69]; another in a similar situation '.. had a free hand - I was a very senior officer at that time' [81]. Where such persons were in senior positions in non-governmental organisations their freedom was even more marked [47, 77, 85, 86]. Another example is that of the senior European representative in a bilateral project aimed at improving nurse training; he had a lot of input into the project's agenda; no money related to the project could be spent without his approval; he arranged for three locals to be sent on the TPHC course; and he had to approve the work done [1].

In some cases the ex-students were not in a very senior position, but the authority to innovate in matters of training was largely or entirely delegated to them: 'He's almost the kingpin of this training programme. I am involved in a number of activities .. so he's given charge of preparation of different training courses run here' [66]. Again ex-students in non-governmental organisations were given a lot of leeway: 'She's in charge; she's free to do in her area what she feels needs to be done' [21; also 47, 82]. In some cases the superior was encouraging but prudent: 'She wouldn't stop me but she'd say, "Softly, softly"' [9]. Superiors might use their authority to promote their subordinate ex-students: 'What I used to do, I push her to the front. Her ideas I like, it's difficult for her status person to come to front, we bring them to the front to discuss - with planning meetings and group discussions' [67]. In another situation the ex-student found himself in a village health worker project fully guided by TPHC principles, but a bit in the shadow of two colleagues who had been to Liverpool earlier. When they left he successfully assumed a leadership position [60].

In other cases the ex-students were not in positions of authority, and this affected their ability to apply. This might take the form of a fairly minor misunderstanding between the ex-student and his new boss about his role [73]. More seriously implementation of TPHC ideas and skills was held back by neglect - superiors simply not using the ex-students' new abilities: 'When I returned back the first day my director asked me what I learnt. I listed all, activities etc. After that they didn't look for me in a way to use my skills' [84]. Another put it this way: 'I would like to make one point - they get someone trained - then they get someone else, and forget why they sent you, they don't go through your file and ask how this person can be utilised .. As the senior nurse in [the organisation] I could never sit on management - so you are a nobody. What's the point?' [36]. Another experience: 'When I came here they could use me - but they don't want to' [68]. The superiors might simply be unaware of the ex-student's new potential: 'The scope is there, but no-one is clear on what I've learnt' [67]. Another could never use his skills in curriculum development: according to his boss, 'I don't put the blame on him, he was not asked to do' [79]. Some had the strength to push themselves forward: 'When I came back I submitted my report to the PHC project manager .. she did absolutely nothing to encourage me. I was forcing myself to do the teaching, to be present' [11]. This did not always work: 'The Regional Authority were running

workshops on the training of village health workers. When I requested that I join the training - I asked to go - but I wasn't incorporated by the people running the programme' [29].

In other cases the person in authority actively blocked the ex-student. Sometimes the superiors clearly disagreed with the nature or usefulness of the proposed innovation: 'I had the idea of changing the curriculum and lesson plans, but I had no authority. I communicate with my boss, he listened, he said to think a little bit. The curriculum didn't change. In my own subject I could change' [71]; 'When she told me you should make this thing [the manual] I decided to use Liverpool techniques, but when I told the project manager she said, "No time for me to sit with you, I'm in a hurry" .. She said it will take a long time for one person' [83]. In other cases the superior appeared to feel threatened: 'When we came back from the course, I thought *all* that information we're supposed to come and implement - we were not prepared: "Remember you're under someone" - so when I came I wanted to implement all; that irritated people like my friend [boss's name], it caused friction' [57] - or in another case, 'Sometimes they think the knowledge you've gained is a threat, so you're blocked, and you leave' [49]. Ideas about changes were construed as criticism: 'This manager is very fixed on performance and targets. I can't say my ideas openly' [83]; also: 'And the management project - there *is* a component in the nurse clinician training; that was completely the responsibility of the principal tutor. I showed it to her - she said, "No no, that's my business." She used to invite people from the [country] Institute of Administration' [59].

In an interesting example the fact that the TPHC course was relatively short, and the ex-student a relatively junior non-doctor, led to his new expertise being repeatedly discounted: '.. that technical advisor - someone who doesn't know about curriculum development .. He was not prepared to listen to me, no no no. He did not appreciate my training in Liverpool. When I came back two of us had been exposed to teaching methodology .. I said, we could do it. But he - the technical advisor - used to hire a teacher, a curriculum specialist, to assist in task analysis - things I'd done! I just slept.' And later: 'I showed them, "Here's my project so far. Here's what health assistants are doing all over the country. Some I interviewed; we did the forms. We can just extract the tasks from what these people have done." He just threw it in the dustbin. And the experts, theirs was just haphazard. They didn't include me; they got this friend of theirs, he had a degree from America. So the two did the task analysis - badly. I said, just forget it' [50; also 48]. In contrast, authorities in non-governmental organisations appeared to be more able to make space for ability, rather than depending on qualifications [63, as opposed to 65].

A group of superiors might block: 'I was not in charge of the school; I had constraints, they didn't understand why I wanted to introduce new ways of assessing ..' [23]. Sometimes one superior was supportive but others not: '.. I can't do - I'm controlling under Principal Tutor, Dr [name], Dr [name]. They're not in good relations, although I get on well. I do the work I get told to do, it's like this.' Her supportive superior: '.. she's never consulted when training comes to district' [67].

In several cases ex-students were not able to apply the project they had prepared in Liverpool, because they did not have the necessary authority: 'This type is good to learn to develop the idea how to make a project - not to implement, if you are not in a decision making position' [71; also 23, 49, 50, 53].

Another reason for the exercise of authority to prevent an ex-student engaging in teaching was financial, in situations where very low salaries were augmented by supplements for sessions taught: 'Sister [name of superior] is very nice, but you are only paid for the number of hours you teach ..' [6]; also: 'That's why they don't call me here - that training allowance business - the seniors want to do it all' [68]. This problem also affected curricula: powerful resource persons - mostly doctors - crammed district level training courses with their subjects, so that relevant material had to be left out [67].

Area 1 Work related factors

Factor 1.2 SUPPORT: the support the ex-student gets as s/he tries to effect change

a. *Expressions*

1	the ex-student gets helpful support from colleagues, superiors, subordinates and/ or students, and works in a team with them
2	the ex-student gets very little support from anyone, but is not resisted either - just apathy; s/he is battling along alone
3	the ex-student is actively resisted by one or more of these partners, to the extent that her/ his output is affected

b. *Quantitative findings*

Table 5.5 The effects of the factor 'support'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Support'	45 (63%)	+37	-27

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = helpful support	17	74%	+29	3	19%	+3	2	33%	+2
2 = apathy	0	0%	-	3	19%	-3	1	17%	-1
3 = active resistance	4	17%	-5	3	19%	-3	1	17%	-1
TOTAL	21	91%	+24	9	56%	-3	4	67%	0

The 'support' factor affected output in about two thirds of the 71 cases under consideration; overall the effect was somewhat more positive. There is a clear difference between ex-students who achieved proven output, and those who achieved none:

- The 'proven output' group included a very high proportion of ex-students who were positively supported, compared to the 'zero output' group. The proportion who were actively resisted in each group was about the same - resistance could clearly be overcome in some cases, while in others it held the ex-students back.
- The 'zero output' and 'unchanged output' groups included group included cases which were to a small degree affected by apathy in their colleagues.

c. *Qualitative findings*

Meaningful support came from individuals or groups. Particular individuals might provide the support the ex-student needed: 'Time has been very short. If I hadn't been here she wouldn't have got around to planning the curriculum.' This person was '.. very careful to play a supportive role, not a primary role' [82]. Sometimes it was the ex-student's boss who supported and stimulated [56].

As far as group support is concerned, a common theme is the support provided by a team working together: '.. good cooperation and understanding from the director; the deputy directors; two RTI principals - very very good' [87]. This team was sometimes specifically structured for training: 'I got a lot of support from the boss, the administrator, and other members of the staff. We formed a training panel - I was the trainer, they were assisting me' [59;.also 84]. In some cases it was the team spirit that enabled the ex-students to overcome real difficulties: 'But the support was there. The team - it was superb - and the participation. If it wasn't for that .. the spirit of oneness, people really in it together' [61]. In one case this team support lasted for many years - a trainers' group' which meets to plan each course : '.. the advantage we have here' [11].

Support is experienced from different levels. In some cases it came from the Ministry of Health [69]; in others from the local management - 'She knows she's backed by hospital management' [21] or from other local bodies like the church [34]. Another phenomenon was an experience of support from one side or group, but not from others: 'First class support, working together in the course; I had all the support. With the Department, with this programme - the Department is not playing the game' [60; also 32, 61, 62]; in another case an ex-student was well supported by his superior, but his plan to expand village health worker training was quashed at a higher level [42].

Apathy from colleagues was a frequent phenomenon: 'I came back, I wrote a report, I waited for feedback from the regions - there was nothing. I went back to my job. When you come back nobody cares whether you learnt or not' [44]. This had practical implications, for instance in getting time allocated for teaching: 'I wouldn't say they were anti, but they didn't understand my enthusiasm. They didn't block me but I kind of wished they'd had a bit of insight into what I'd done, so I could apply it; to get time in our day was difficult. I felt they didn't even expect anything new - because you yourself have been excited you can't expect someone else to be excited, that's a problem with these overseas courses' [30]. Another ex-student found that 'the staff themselves are not interested in bettering - they have to go to O levels first in order to do SRN training. They are content with the few [currency units] they receive as masters of rural programmes. They don't see the need to go on - that makes things very difficult' [23]. Similarly, some colleagues just expected the ex-student to get on with the job: 'He thinks I will do this thing - he's not stopping but not helping. He gives me praise after doing work; he doesn't ask, not concerned with how I do it, just as long as results come. I don't like that kind of person' [83] - perhaps due to overwork: 'They listen - but what do they do to help you? They receive ten telephone calls at a time; you write a report and he just signs' [32].

Jealousy and hostility appear to have been the causes of poor support in a number of cases - often related to the fact that the ex-student had been overseas. This is well illustrated in this example: 'When I reported back in September to the regional director, he asked me to work with the regional Primary Health Care team on their education projects. But the lady in charge, a senior nursing officer (public health) was scared of me. I was her tutor at [regional capital], she felt I was coming to usurp. For three days she made sure she didn't even meet me. At the turn of the week she was in [capital city] at Head Office. When she returned the regional director called me and told me to report back to school' [23]. Another ex-student found it hard to get her colleagues to support her practically: '.. they also showed hostility - I had scope to go to U.K., so it's my job to do it alone' [65]. Yet another found that 'when you come back from abroad you create enemies for yourself; it's difficult to get cooperation' [20]; another found that '.. all were happy except one colleague. She was assistant manager. She was not very happy with me, not saying openly - but I felt from her attitude. She was senior from me, also she wants to go to Liverpool' [83]. This feeling was sometimes caused when an ex-student had been inappropriately sent to Liverpool: 'From the beginning they were jealous, when I was chosen though I wasn't a teacher' [68]. In some cases the clash was one of personalities; and since 'that person was powerful .. whatever I achieved I did by myself, by my own methods' [84].

The way in which students had previously been conditioned was given as a reason for their not accepting a more interactive style of teaching: 'I wanted the students to be active .. to share experiences, get them to do things. There was student resistance' [2]. Another gave the same reason for slow progress: 'They were not made in that way' [71]. This led to ex-students continuing a tradition of spoonfeeding their students, and over-using passive rather than interactive techniques [1]. In the same vein another ex-student reported that 'if you call them [students] from the office for a tutorial they feel they've done something wrong, they don't come' [50]. The other side of the coin showed itself in teachers refusing to abandon their traditions in support of the innovator. In trying to achieve curriculum change the principal of a training school found that '.. in spite of my insistence many people made a list - number of hours etc., not necessarily methods etc.' [69]. Another ex-student reported that '.. it was difficult to gain the cooperation of the person I was teaching with - a senior, she had her special methods' [20].

Various other reasons were advance to explain the lack of support. Health worker politics was seen to play a role: 'Inside Dr [name] is a doctor also, he takes their side' [83]. A doctor found that 'when the nursing students were coming the nursing tutors were with them - mostly it was field work. I wanted to discuss with them, they were not in a mood to listen to me' [68]. Another ex-student felt he did not get a good response to his suggestions from colleagues 'because they are expats' [47]. Yet another expected too much from the staff for whom she was arranging in-service training: 'I tried to do it on weekends, I got resistance from the staff' [59]. In some cases the lack of support was felt to be due to lack of understanding on the part of superiors: 'I was not supported by my superiors. Dr [name] should have done the course' [12].

A specific kind of mutual support could have been expected to be supplied by fellow ex-students of the TPHC course, in situations where these were working in the same area or institution (which in fact was the case in 19 instances, involving 46 of the ex-students). There were relatively few instances where it appears to have made a difference: the cooperation was '.. a little, we were responsible for different work' [76]. Another said the benefit was 'not much. In terms of running the programme we live entirely to us' [78].

In a few cases it did help, for a variety of reasons. There was the question of having '.. a more common understanding. We can both say, "We need task analysis"; we don't need to explain, the common vocabulary' [74]. In some instances there was more effective mutual help: 'At times I doubt what I'm saying; I go to see [name] and ask. He says we used to do this. Even if we do things differently - if we discuss we understand each other. So far I think it's better that we did the same course' [62]. A group could exert pressure more effectively: 'There were times when our supervisor had problems in agreeing with what we wanted to do. But we were all of the same mind, so they had to agree - if we'd come from different colleges it wouldn't have been like that' [54]. Again: 'It was not only a load off - when you have people who think the same as you do, two can influence more than one' [69]. The team formed in this way might have different but mutually beneficial roles, but might still be too small: '.. I was implementing, he was administering. I need two or three more implementers - that was the problem. There was no-one else' [70].

Area 1 Work related factors

Factor 1.3 RESOURCES: the resources available to the ex-student to do innovative work

a. *Expressions*

1	enough of everything needed
2	shortages; good output can be achieved by using what is available, but some things can't be done and quality inevitably suffers a bit
3	shortage of resources significantly hampers output/ quality of teaching

b. *Quantitative findings*

Table 5.6 The effects of the factor 'resources'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Resources'	43 (61%)	+32	-23

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = enough of everything	8	35%	+9	1	6%	+1	1	17%	+1
2 = shortages, can cope	10	43%	+11	4	25%	0	0	0%	-
3 = shortages hold back	4	17%	-5	5	31%	-5	3	50%	-5
TOTAL	22	96%	+15	10	62%	-4	4	67%	-4

The factor 'Resources' affected output in more than half of the 71 cases - about as strongly as the other work related factors 'Authority' and 'Support':

- In 14 cases there were shortages which were overcome and did not hamper output.
- In only 12 cases was output held back by a lack of resources, and then only a little.
- The 'zero output' group contained a rather higher proportion of cases where shortage of resources held back output.

c. *Qualitative findings*

In terms of resource provision, an analysis of the principal work situations of the 87 cases produced the following categories:

Table 5.7 The work situations and resources of the 87 cases

work situation	no.
• State service, mostly reasonable resources and salaries (often with past input from outside sources)	34
• State programme with current bilateral funding and an ample budget	11
• State programme with current bilateral funding, salaries low but topped up	4
• State service, used to have outside funding, now good capital resources but very small budget and/or salaries	8
• State service, low budget/ salaries, running on periodic injections of outside funding	6
• Non-governmental organisation, more or less enough resources	19
• Non-governmental organisation, too few resources in one way or another	5

In many of these cases external funding had at some time ensured abundant resources of good quality: building accommodation, furniture, educational equipment (posters, slides projectors, video etc.), duplicating facilities, textbooks and reference libraries, and stationery of all kinds [e.g. 3, 34, 50, 55]. In some cases this largesse was still being made available, at least temporarily [e.g. 26, 38, 66] while in others it had ceased [e.g. 7, 65]. In the latter situation it was mostly the State health services taking over the burden, with varying degrees of success. In all but a few cases work situations in non-governmental organisations provided adequate resources.

Shortages of resources did not necessarily hamper output. In some instances motivation was enough to overcome the hurdle: 'If it were for resources - even today we'd not have started' [61]. Other ex-students preferred to teach without more sophisticated equipment: 'I'm not that much interested' [82]. Yet others looked upon the shortage as a challenge to develop alternative methods - for example, excellent series of hand-drawn pictures, in the absence of an overhead projector, slide projector and video [86]. There were many other examples of ex-students making do, making a plan [58] - for example, selling handouts to buy paper for the next lot [12].

In a number of cases the resources were so low that performance was definitely affected. In some instances this effect was very small - for example, when an overhead projector was not available the ex-student could not practice that particular skill in his work [11; also 65]. In other cases shortages limited teaching ability more widely. One ex-student put it this way: 'You receive your training; the environment here, the resources are not adequate for you to exert an impact, to use the training you had' [43; also 45]. The quality of classroom teaching could be affected by a lack of electricity for projectors, books and training manuals, and stationery [6, 51]; also: 'I started to use other methods; and also I know, if I had this I could have done that' [34]. Practicals could be affected as well: 'For example, I want to show a bed bath - there's no hot water, no soap, so I can't demonstrate. Also ward equipment is absent' [16]. In one situation the resources were there but the ex-student was not allowed to use them: 'I wanted to give a handout - you have to do it all outside, type, roneo, the school won't

give you anything' [68]. In another case sharing of limited library resources and disappearance of books from the shelves 'diluted what we have to almost nothing' - especially since the bilateral programme which had stocked it had now come to an end [54, 55; also 45]. Sometimes the resource books for the tutors themselves were also too few [9, 47].

A lack of transport to take students to practical sites in the community was a problem in more than one case [34,69] - in one situation this also meant that tutors had to give up on continuing education and the supervisory visits of past trainees [54].

In quite a number of situations 'the major problem is qualified teachers in the different areas. For example, [ex-student] has resigned. The old ones are gone, I recruit new ones who have no teaching qualifications - the major problem is faculty' [69; also 59]. Another complained that 'there was no proper assistant for me .. she made lesson plan, I had to correct everything - they have no ability to make everything themselves. And she's not a good trainer - a great problem when I came back' [83]. Simultaneous shortages of both facilities and staff made it hard to introduce innovations like OSPE: 'it wasn't possible in terms of logistics and personnel' [23].

In several situations specific funding was required for training to take place at all - funding for student transport and accommodation, hiring of facilities, *per diem* allocations. Where such funding was not forthcoming training suffered [31, 59]. One ex-student reported trying 'to organise seminars calling TBAs to the Centre - it was too expensive, it didn't work' [8]. In one instance corruption was blamed for the shortage: '.. all the money disappeared, no-one got trained at sub-district level' [19]. In the same vein, the very poor salaries some ex-students received interfered with their output in different ways. Some left to try to earn better [42]; others were obliged to take on a second job, or farming, in addition to their official one: 'I have to go to my farm sometimes - it does affect my work, yes' [9]. The battle to cope with a tiny budget and even less salary was reported to be demotivating and frustrating [12].

Area 1 Work related factors

Factor 1.4 TIME: the amount of time available to the ex-student within his/ her job, to do TPHC related work properly

There are two factors which deal with the concept of 'time':

- Factor 1.4 'Time' - this defines how time as a resource (within that allocated proportion of job time) affects output.
- Factor 2.1 'Relevance of the job' - this defines the proportion of job time that is officially allocated to TPHC related activity, according to the nature of the ex-student's job.

a. *Expressions*

1	there is enough time available for the ex-student to do the TPHC related work properly
2	the time available is too little, so that the ex-student has to work overtime to do the TPHC related work properly
3	the time available is too little, and affects the quality of the ex-student's output

b. *Quantitative findings*

Table 5.8 The effects of the factor 'time'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Time'	19 (27%)	+1	-22

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = enough time	1	4%	+1	0	0%	-	0	0%	-
2 = does overtime to cope	1	4%	-1	0	0%	-	0	0%	-
3 = too little, can't cope	9	39%	-11	3	19%	-5	1	17%	-1
TOTAL	11	48%	-11	3	19%	-5	1	17%	-1

The proportion of ex-students whose output was significantly affected by time *as a resource* is fairly low. Not surprisingly the effect is almost exclusively negative. It appears to be especially those who achieve output who find that output curtailed by having too little time to achieve their potential.

c. *Qualitative findings*

The most common complaint of ex-students was a lack of time to do the training allocated to them properly - either because the job was too large to begin with, or because it was expanding: 'During the course of the day there are so many things to do .. Time is scanty as the programme grows' [60]; '.. the community health worker programme is growing too fast. Everyone is aware and wants community health worker programmes - *now*' [62]. In practice this meant that some of the TPHC related activities were not carried out optimally. One productive ex-student could not do assessment of practical skills properly, in her community health worker training programme: 'We've got seven areas in [city], she's incredibly busy.' She herself found she had too little time to read up, refresh herself: 'Some ideas you can get from your own mind, but some from books' [82]. Yet another commented on not making proper lesson plans any more: 'As time went by I stopped. I got myself bogged in much work, I ended up with putting everything in the head' [40]. When two equally worth-while TPHC related activities had to be carried out at the same time quality suffered: '.. the community health worker exams, the CHF courses. At times one of the two fails' [62].

Several causes for this shortage appeared to be operating, of which an important one was shortage of professional staff: 'There are not at all enough of us' [62]; or: 'If she had more people she'd have more time to innovate; so she has to do things she shouldn't' [21]. In some cases the absence of administrative support meant that valuable time had to be spent doing secretarial work [73], or attending meetings: 'There are too many meetings here because of the problems' [54]. Donors wasted time, as well, for example by insisting on nitpicking details of reporting and expenditure [32].

A further aspect concerns the demands made on time by nationally determined curricula - more time-consuming, interactive teaching has to be abandoned in favour of traditional lectures in order to cover the prescribed material: 'We have seven hours a day in School, each is given one hour per topic; at the end of the day we are expected to have given seven different topics. The curriculum setup - you have to strictly follow, or you don't finish the syllabus. That's why I don't use all the information I got .. I would not call it failure, but time constraint. I'd love to have more discussion in class, discuss together to arrive at answers - but I'm tied down, the curriculum calls!' [9]. Another ex-student put it this way: '.. I dictate notes, they have to read, they have to finish course. We take responsibility for failure' [67; also 51].

In one case a decision was made to close the project, shortly after the ex-student returned form Liverpool, which created a sensation of urgency that hampered output: 'But I have to say - sometimes project manager shouldn't give very short time to subordinate to give back this. When I came back from Liverpool I thought I could systematically implement it in my work, but when I came back, this news .. I get confused, not able to think more on something' [83].

Some ex-students tried to compensate by not taking leave for extended periods of time, in order to catch up: 'I've only had two weeks' leave, in December' [62, also 12]. One adopted a strategy of working extra hours: '.. most of my work I do it after hours' [60]. For others this was not an option - they could only attend to their jobs during work hours, needing to supplement their salaries with after hours work in second jobs [20].

Area 2 Job related factors

Factor 2.1 RELEVANCE: the relevance of the work to TPHC content (how much it has to do with training)

This factor is clearly related to the 'amount' element of the output achieved by the ex-student.

a. *Expressions*

1	a situation where all the work the ex-student is supposed to do is related to the TPHC course
2	a situation where most of the ex-student's work is so related
3	a situation where about half of the ex-student's work is so related
4	a situation where a small portion of the ex-student's work is so related
5	a situation where none of the ex-student's work is related to the TPHC course

comments:

- The other work could be administrative; curative; related to health education.

b. *Quantitative findings*

Table 5.9 The effects of the factor 'relevance'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Relevance'	58 (82%)	+77	-56

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = all work TPHC related	6	26%	+14	2	13%	+3	3	50%	+5
2 = most TPHC related	6	26%	+15	1	16%	+2	1	17%	+1
3 = half TPHC related	10	43%	+22	0	0%	-	0	0%	-
4 = some TPHC related	1	4%	+2	7	44%	-20	2	33%	-4
5 = no work TPHC related	0	0%	-	6	38%	-17	0	0%	-
TOTAL	23	100%	+53	16	100%	-32	6	100%	+2

As might be expected the relevance of the job, the proportion of it in which the ex-student could be expected to use TPHC related skills, was a factor in determining output in a large majority of cases (more than 80% in fact):

- The proportion of ex-students with work that was largely TPHC related was highest in those cases where the output remained unchanged (i.e. teaching continued as before), and second highest among those who achieved real output.

- Not surprisingly a high proportion of those with zero output were in jobs with low TPHC related work content - more than 80%.

Overall job relevance as a factor had a decidedly greater positive than a negative impact.

c. *Qualitative findings*

On the one side were ex-students who found themselves in positions where the job consisted entirely of opportunities to apply TPHC - for example, in an innovative training school for Primary Health Care workers [3, 7, 12, 34, 53-57, 60-62]. Sometimes the job created additional TPHC related opportunities - for example, a lack of doctors in a non-governmental organisation led to a clinical service being discontinued, leaving an experienced nurse free to concentrate on a Primary Health Care training programme [86]. In another example the fact that a tutor was going on maternity leave meant that the ex-student got roped in to take her place [47]. A move to a new position could also be positive, providing the same or even more opportunities for applying TPHC. Such a move was deliberate in most cases, with the ex-student entering a new job knowing it focused on training [1, 12, 19, 77, 83].

There were a variety of reasons why ex-students found themselves in positions where they had little scope to apply what they had learnt. Among these transfer by the State bureaucracy, into positions with little scope for utilising what was learnt on the TPHC course, was probably the most important. The most common reason for such movement was promotion. Such promotion commonly moved the ex-student into a more administrative position, with less time for hands-on training: 'My main responsibility according to the job is to plan, to evaluate. Most of the time is taken up with nitty-gritty' [69; also 45]. Another put it this way: 'As we kept advancing the rules started changing, or you get so much bogged down in administration, spare parts for fridges, you get away from your profession' [44]. In another case the promotion (one year after returning) moved the ex-student into clinical work, '.. so I have to go out a lot. I'm not teaching so much now' [21]. Promotion within non-governmental organisations could have the same effect, but were not forced on the ex-student [59, 63, 74].

Transfer into positions with less scope for applying TPHC did not always bring promotion [68]. In one the needs of a new bilateral programme caused the transfer, which also entailed new overseas training in a new direction or paradigm - which then effectively moved the ex-student out of TPHC related work [48].

The time interval that elapsed between return from Liverpool, to a move into a new job, varied. In some cases it happened while the ex-student was still in Liverpool [39, 68]. In others it happened very soon - for example, an ex-student who was transferred to Ministry headquarters happened so soon after returning from Liverpool that he had no time to run a planned 'training of trainers' course for his colleagues: 'The wastage of money, not doing what I was trained for - the saddest part for me and the funders' [71]. In still other cases the transfer took place a number of years later, when the ex-student had had time to produce an output [65, 74, 78].

In a further example of failed planning the training school where an ex-student was productively working was closed down 6 months after her return, when the bilateral programme that had actually funded her study in Liverpool changed direction. As a result she was moved into a clinical post [67]. In another case the Primary Health Care training programme for which the TPHC course was supposed to prepare an ex-student was scrapped while she was away: 'There's no point in being sent and not being utilised' [36].

The failure of planning illustrated in these examples was well summarised as follows: 'If donors knew what was happening they'd think otherwise. The government is keen on sending, but when they come back they didn't follow them. It's a weakness not of the students but of planning. So there is a brain drain' [49]. An aspect of this failure was poor communication between the employer (the State) and the donor: 'When you come back the MOH is not bothered with you, they don't put you in the right place where you can use what you learnt. In planning the [international agencies] were the main collaborators' [11].

This lack of understanding between the State and bilateral donors not only led to poor opportunities to apply TPHC, but even resulted in careers being negatively affected, as in the following case. The ex-student was earmarked in a bilateral programme to run a regional in-service Primary Health Care training programme, which eventually never materialised: 'When I was away the function of cold chain operator was delegated; when I came back a letter was written that since I had gone on training and had left the functions to others - the letter said I was commanded for HQ, so they looked for someone else to do it. He'd come from the district, so I said to exchange, so I can continue with duties as a health officer in the district. It was frustrating for me - it was a punishment going for training'. As a result he was now in a job with perhaps 5% of his time spent on teaching. As his superior said, 'He's not a trainer per se, or leading in training; he's in administration .. I think the purpose of the course is not fulfilled in what he is doing now' [29].

In some cases it was the ex-student's own decision to move on to a new job - mostly less TPHC related [15, 81, 83]. One ex-student left his TPHC related job to study further, in a completely different direction [46].

Factors related to entry into the course also played a role in the relevance of jobs afterwards. A situation that arose more than once pertained to expatriates who were preparing themselves for work in a developing country, who had no clear understanding of what the work would entail and hoped that the TPHC course would help them - which it sometimes did [1, 19] and sometimes not [25]. In a few cases the TPHC course should never have been selected, since it had little to do with the ex-student's prior or subsequent job - 'TPHC was the wrong course for me' [24]. This could happen as the result of carelessness or a genuine misunderstanding [45], but also fraudulently, with the full knowledge of one or more of the players [14, 68].

Some ex-students experienced a conflict. in having two distinct responsibilities in their job - only one of which was TPHC related. If the other component was more urgent (e.g. clinical work) it tended to eat into the TPHC related one: 'I didn't go through the whole curriculum - lack of time and overload of patients' [59; also 30, 58, 85]. It could also happen that Management considered the TPHC component of the ex-student's job to be less important - part of it certainly, but secondary [47]. In two cases the opportunities for TPHC related work were there in the job, but they were not those that the ex-student wanted: 'The [organisation] has more of a classroom teaching orientation. I was the only one [interested in Primary Health Care] - it was really frustrating and boring' [13 - also 23].

Area 2 Job related factors

Factor 2.2 OPENNESS: the openness of the job to TPHC concepts and ideas

There were found to be clear conceptual links between this factor and three others - 'Authority', 'Support' and 'Outside':

- The attitude of the authorities in an organisation, and the support they and colleagues give to an innovator, is an important determinant of the openness of a job to innovative change.
- Similarly, if innovators are themselves in charge they can influence their organisation more effectively to accept change.
- Outside rules and regulations, and the influence of powerful outsiders, affect the openness of organisations to change.

a. *Expressions*

1	a situation in which the ex-student is expected to innovate, starting up a new programme into which TPHC concepts fit logically - a lot of challenge
2	a situation which already embraces TPHC concepts and expects the ex-student to apply some of them more or less actively - not so much challenge
3	a situation which allows the application of TPHC concepts in personal work, but discourages their application in the work of the organisation as a whole because it is rigidly committed to the present system it is operating
4	a situation which resists the application of TPHC concepts even in personal work - again because of a rigid commitment to the *status quo*

b. *Quantitative findings*

Table 5.10 The effects of the factor 'openness'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Openness'	53 (75%)	+53	-51

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = open to all innovation	15	65%	+31	0	0%	-	1	17%	+1
2 = open to continuation	4	17%	+8	4	25%	-7	5	83%	-12
3 = only in personal work	4	17%	-4	3	19%	-1	0	0%	-
4 = not even personal work	0	0%	-	2	13%	-4	0	0%	-
TOTAL	23	100%	+35	9	56%	-12	6	100%	-11

The 'openness' factor played a role in three quarters of the 71 cases, with about an equal overall positive and negative impact on outcome:

- The degree of openness of the job to innovation was considerably higher in cases with true output than in those with negative output - in the latter there were no cases where innovation was unreservedly encouraged, and a few which allowed only limited innovation or none at all.
- The majority of cases where the output remained unchanged operated in situations that embraced the TPHC philosophy, but had institutionalised its application and did not welcome departures from the norm.

c. *Qualitative findings*

No matter how good the course may be, application of its contents is greatly determined by opportunities in the job: 'It's not a disadvantage to the course, but to the students when they go back. The methods of practising; to be able to develop a curriculum to teach your students - the opportunities are not there' [43].

The majority of ex-students who produced real outputs found themselves in situations that were completely open to educational innovation. One was expected to start a major Primary Health Care training exercise from scratch, with a free hand regarding curriculum and methods, and a colleague who supported the TPHC approach [61]. In some instances the job had been opened up to TPHC style innovation by the exertions of other ex-students who had gone before and started the process, thus enabling the new graduate to progress faster - new curricula [69], new styles of training [57, 60, 62].

On the other side were situations that were relatively rigid and closed to innovation. This was especially the case in jobs in State training institutions (with some variation). In some 'the overall curriculum policy is fixed, but tutors can plan lessons in their own way' [20, 65]. In others '.. there is a rigid adherence to what has been in existence; they are scared of change at this school' [23]. In such a situation an ex-student blamed her inability to apply what she learnt on the system: 'I think most of the techniques were not used because of the rigid programme we had - the course had to be finished .. If you have a lot of group work you can't finish, so you talk and talk until you're through' [51; also 9]. In yet another example (a programme thoroughly based on TPHC principles) 'the programme was so stereotyped, you had to do it this way, according to the routine - not your own way' [57]. A few years later a new ex-student in the same institution had the same experience with her boss: 'I did approach her about teaching students how to develop projects, simple ones with the community. She refused, she said it's not in the curriculum. Then she transferred me out, to work in the clinic' [59]. Such personal resistance to change was noticed in other situations as well: when one ex-student tried to use patient management problems in assessment '.. the person I was examining with found it very alien. Acceptance was low, so I didn't continue.' His efforts to introduce written lesson plans also failed: '.. people were so glued to tradition.' An attempt at curriculum development failed as well, but for a slightly different reason: 'I tried to introduce it to the staff but they failed to grasp it' [40].

A corollary of this rigidity was the fact that curricula - often very good ones - had been worked out in great detail, even down to the level of individual lesson plans. An ex-student in a teaching programme for auxiliaries wanted to be involved in curriculum development and lesson planning, '.. but here we're tied down by the manual, we're told to go strictly by it .. I want to put in practice but not all ideas you can put in practice' [6]; in another case 'the curriculum came from USAID .. I didn't do any curriculum development' [48]. In yet another instance the Ministry prescribed the objectives for all in-service training closely, so there was no incentive for the ex-student to innovate [29]. Donors could also be very prescriptive: 'We stand under the donor. Anything new I can't implement officially' [32]. Sometimes limited movement was possible: '.. as long as it's not the Board exam they're always open, I can teach the way I like, I'm given freedom' [79]. An ex-student working in a national in-service training centre put it in a nutshell: 'The only thing you could do was the methods of teaching, and to make them do practicals. The whole other system was already set. So when you came back .. unless you join where the curriculum is developed, it's difficult to see if your influence for a change has had an impact' [43].

In some cases the content of the job, the way work was allocated, limited the parts of the TPHC course that could be applied. A manager in a non-governmental organisation had to approve training courses and evaluate training, and felt frustrated about not being able to practise classroom teaching [73]. A teacher who only did classroom teaching could not implement skills related to practicals: 'The problem is I haven't really been involved in teaching practicals, I've always been at the board, others did the practicals' [40]. The fact that the number of students in class became very large limited possibilities: 'From the number of people attending the seminars - for example [place], up to 70 women gather, it is very difficult for one person to manage' [35]. In a related situation large classes (a change brought about by a bilateral programme) made it very hard to introduce a tutor system, or arrange field visits [50]. The complexity of the system also limited its openness: 'For you to implement as a package here, in a bureaucracy - it's very difficult, the resources are few, so it's almost a nightmare' [49].

In some situations job opportunities for change were linked to seniority [38] or qualifications - 'I was not given chance - they thought BSc or MSc could do it better' [65]. Superiors limited innovation by insisting on control: 'Everyone wants to utilise me in their own way, and not my own things. I want to continue learning and doing, learning and doing - but no-one realises it' [67]. Another ex-student wondered, 'Why did he send us? .. We even said, why did they send us if we can't practice what we were taught?' [57]. Superiors were also not open to the possibility of utilising local expertise: 'Coming to my mind - if government is spending so much, why not utilising our services? I said to [another ex-student], why call [capital city] people? why not get ex-TPHC students together? She says it's not in her hands' [67]. Some colleagues in jobs were also not open to change; when an ex-student tried to introduce student evaluation of teaching '.. The trainers were not happy, I stopped that. They're happy with me assessing them, but not the students. Some are sensitive, some are broad-minded' [78].

On rare occasions ex-students trapped in bureaucratic teaching situations with fixed curricula and lessons were given particular opportunities to use what TPHC had taught them - running a 'training of trainers' course, for instance: 'The TOT was my main achievement of TPHC' [79; also 67, 80]. Sometimes a job was at first closed to innovation, but then opened up. In one situation a Nursing Council decision to change the curriculum opened the job wide: 'Theory and practice should come together; teachers are now compelled to do on clinical supervision - me and the new curriculum are bringing this about'; group work also became possible with smaller classes [20]. Conversely other relatively open situations became closed, as bureaucratic control tightened. An ex-student who developed a new curriculum reported: 'That project was to re-draw my curriculum, the State one. I was able to use it for two years. Afer that the MOH took over, they had a new one for [country] .. Now you can't do much, it comes [from the capital city]' [81].

Area 3 Factors related to the environment

Factor 3.1 OUTSIDE: the influence of policies and interests generated outside the ex-student's work situation

In a number of cases it was found that 'outside' influences affected output significantly - for examples the programmes and policies of bilateral projects; of the World Health Organisation and UNICEF; of Ministries of Health.

a. *Expression*

1	programmes/ policies generated in this way provide the ex-student with opportunities, resources and expert guidance, so s/he implements TPHC knowledge and skills more effectively
2	programmes/ policies generated in this way impinge in a negative way on the ex-student's ability to apply TPHC related learning effectively

b. *Quantitative findings*

Table 5.11 The effects of the factor 'outside'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Outside'	31 (44%)	+9	-46

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = opportunities provided	4	17%	+7	0	0%	-	0	0%	-
2 = opportunities withheld	7	30%	-12	5	31%	-8	2	33%	-2
TOTAL	11	48%	-5	5	31%	-8	2	33%	-2

The factor 'Outside' affected output in just under half of the 71 cases - a considerable proportion. The effect was mostly negative - perhaps because outcome factors conducive to a good outcome would in most cases be part of a person's normal situation, and as such would not be remarked upon. The 'true output' group was the only one to provide opportunities for output; otherwise all three output groups were proportionally equally affected by opportunities withheld.

c. *Qualitative findings*

Ex-students' efforts at innovation took place against the background of national policy, which could have a facilitatory or an obstructive effect. Discrepancies within human resource management policies and practices had strong negative effects. On two occasions it actually happened that while the ex-students were in Liverpool, their employing organisations decided to scrap the TPHC related programmes that they were supposed to be working in on their return: 'There's no point in being sent and not being utilised' [36]. In one of these cases this was known beforehand - the ex-student was sent to Liverpool as a reward: '.. because I'd done well [name] tried to get me on a short course.' On his return that ex-student immediately rejoined the mainstream of his profession, with few opportunities for doing training [29]. On two more occasions ex-students were transferred to new positions immediately on their return, which meant that they lost most of their opportunities to apply what they had learnt: 'At that time I was happy to be exposed to curriculum development. I thought I'd use it in my school; unfortunately I never used it. My transfer to Ministry of Health headquarters was done while I was in Liverpool - I was moved directly' [39; also 45]. In another case the post-basic community nursing curriculum an ex-student had been working on was never implemented due to a sudden change in policy on nurse training [52]. The policies of professional councils regarding training in most cases held back innovation: 'When I started meeting with colleagues, to explain what I'd learnt, the principal (a senior man, in age) would say, "If you want to implement this you'd better go to the Nursing and Medical Council, and ask them to restructure - not that we do this and they say that. Perhaps they will employ you to do that."' [23; also 9, 80]. On the positive side, changes in policy could facilitate an ex-student's work: 'The government has to agree, like OSCE - before we couldn't, we had no opportunity to' [79]. A change in nurse training policy provided another ex-student with a window of opportunity a year after she returned from the course: 'Now due to a change in the curriculum I can use it' [20].

Another recurring theme was the effect (both positive and negative) of donor funding for national or regional health programmes. The positive effect was the provision of new opportunities to develop training, with sufficient resources [66; also 3, 12]. In two situations lack of funds in the State health service meant that the only training that could take place was that funded by donors [11, 31]. The negative effect showed itself in a variety of ways:

- A need to fulfil training quotas led to a completely illogical 'entry', and the ex-student's attempts to be appointed to a position where she could use her training came to nothing: 'The [programme] people who organise this classes don't want to go to deep trouble, writing to government and so on. When I came here they could use me - but they don't want to' [68].
- In the same programme an ex-student was transferred to a desk job when the school for auxiliaries that she directed was closed, and her vision of a model school died with it: 'After five years it was closed, the idea was doomed.' Her career had been interrupted as well: 'The powers we got in Phase One of [programme] we lost; the training schools were closed, now they are taken away. If it had been a regular course like nursing diploma all would have continued .. Phase One nurses were in charge; Phase Two doctors and mass media people - nurses are very little taken' [65].

- When a bilateral funder withdrew before completion of the scheduled programme a training school was swamped and innovation became very hard: 'This was from WHO, a prescription. So we couldn't improve the quality; the government was prescribing continuance of the same curriculum, and doubled intake' [49].
- Dependence on external advisers led to the expertise of ex-students being ignored: 'There they left us. So my project from Liverpool didn't go the way I wanted. I wished I saw it through according to the way I was taught. Up to now I can't say our curriculum is *good*. Another technical advisor has come and gone, and produced nothing' [50].
- Insistence on externally determined content of in-service training interfered with the logic of the TPHC curriculum process: 'During supervision once a year of nurse clinicians we got deficiencies .. What made it even more complicated was the funder. If UNICEF say - they wanted to see the timetable, they'd say "EPI", so 80% had to be MCH' [56; also 29].

On a national level, economic problems and structural adjustment policies in some countries led to ex-students being paid salaries that it was impossible to live on. As a result some went to better paid jobs with few opportunities for training [8, 32]; others in training jobs had to use part of their time for a second job, which negatively affected the first one [9]. In one case a flare-up in a civil war finally put paid to an ex-student's tentative efforts at applying what she had learnt - she became a refugee [14].

Finally, cultural norms affected what ex-students were able to achieve. A problem arose in a non-governmental organisation in an Islamic country because the expatriate director was male: 'We had a very serious problem in our project, working with a man, in our culture .. hearing things from other people, it disturbs you, a young woman working with a young man. The coordinator has to work very closely with the director .. people have different kind of ideas' [82]. A more common limiting effect was caused by strongly hierarchical power relations in the local culture: '.. at eye camp I used to mix with ophthalmology assistants, we tell each other problems. My boss doesn't like it, he says, "Give some distance."' [68]. This attitude was reflected in the top-down way teachers were expected to relate to their students, which militates against the emphasis in the TPHC course on student centred approach and the use of interactive methods. An expatriate ex-student commented that other ex-students in the same country were bound up 'in a culture of .. authority - how much problem solving and decision making is allowed? The course tries to change it, but then they are back in the culture' [1]. As a result some ex-students felt unable to change: 'In [country] people still have that expectation - you can't be too participatory. Another thing: you value cultural norms if the teacher is put in a high situation' [77]. Other tried to change but found it very difficult: 'We ask questions to find out if they understood, we encourage them to ask back. Very few did, it was traditional .. even now few can dare to ask questions' [69].

Area 3 Factors related to the environment

Factor 3.2 FAMILY AND HEALTH: the influence of the ex-student's family and health

Although this factor could also have been considered within the factor 'Outside', it was found that several ex-students were influenced by 'Family and health' as well as one of the components of 'Outside'. Accordingly it was found necessary to analyse it separately.

a. *Expressions*

1	family and health considerations help the ex-student achieve a better output
2	family and health considerations make the ex-student leave a situation where s/he can apply TPHC learning well, to go to one where s/he cannot

b. *Quantitative findings*

Table 5.12 The effects of the factor 'family & health'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Family&health'	8 (11%)	0	-13

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
2 = inhibiting effect	4	17%	-6	2	13%	-3	0	0%	-
TOTAL	4	17%	-6	2	13%	-3	0	0%	-

About one in ten of the 71 ex-students under consideration were affected negatively by family issues. There were no instances where a positive effect on output was noted.

c. *Qualitative findings*

Ex-students left TPHC related jobs for family reasons. One ex-student had to leave his job as tutor in a national school for health workers because he inherited some family land in a distant rural area, which he had to farm or lose. His application later to return to his old job was turned down, due to a civil service regulation barring re-employment of officers who had resigned [70]. Another left a job in a nursing school, needing to return to his home town for family reasons. His effort to set up a private clinic failed due to the civil war which erupted, and by that time his old post had been filled by

someone else. He was in dire financial straits [8]. One ex-student asked for a transfer from her old tutoring job to a purely clinical nursing job, because of her impending marriage - this was arranged even before she went to Liverpool: 'When I came back I knew I was coming to this district, but I didn't know what I'd be doing.' She then fell pregnant quite soon after returning and went on maternity leave for 5 months [15].

A small group felt that family commitments prevented them from doing as well as they could have in their jobs. One was posted 300 km from her home, so: 'I couldn't take part fully - I had to come here every weekend, every holiday I was coming' [68]. Another explained that 'Here in this place our family background is, the lady has to do all the work. That's why married women show little interest - I was the same. If you are unmarried and interested you are doing better' [65].

Three ex-students were held back by injuries in severe traffic accidents - two for three months [37, 38] and one for six months: 'When I came back in July 1985, I was barely two weeks in the country, I was involved in a car accident. I was in hospital for two weeks .. So almost the whole of [year] I couldn't do much of my duties; I was still at home until October' [48]. Finally one ex-student suffered a double blow soon after her return from Liverpool: '.. this year and the death of my sister and mother - I've had it. I didn't expect two deaths in less than three months. What I need is a bit of time to concentrate on my work' [35].

Area 4 Personal factors

Factor 4.1 SELF-EFFICACY: the degree to which self-efficacy in TPHC related concepts and skills affects output

Self-efficacy is defined by Bandura (1982) as 'judgements of how well one can execute courses of action required to deal with prospective situations'. The fact that new output was achieved is in itself an indication of self-efficacy: those ex-students judged themselves able to apply a new concept or technique, so much so that they actually went ahead and tried - and in some cases succeeded, depending on the host of other circumstances that were operating. The analysis assumed that a degree of self-efficacy was bound to have been present in each ex-student at the end of the TPHC course - but its presence or absence was only seen to make a clear difference to output in specific cases. Some ex-students returned to a job with a conviction that specific things needed to be changed, and that they were able to bring about those changes; others had no such wish or conviction; and yet others lacked faith in their own ability to make such changes happen in their work.

Self-efficacy was understood to be the result of a number of previous events - pre-TPHC training and experience; the TPHC course itself; post-TPHC training and experience. It is worth noting that a large number of ex-students said that the short duration of the course significantly impeded their mastery of its material.

Evidence about self-efficacy was to be found in the width of accomplishment (the number of 'Specific Items' ex-students were able to apply); from the plans they said they had upon return; from innovations they attempted; from the new confidence they and others said they now had; and from the efforts they made to influence others.

a. *Expressions*

1	a marked degree of self-efficacy appears to be present for a significant number of TPHC concepts and skills
2	some self-efficacy appears to be present for some of the TPHC concepts and skills
3	there appears to be little self-efficacy regarding most TPHC concepts and skills
4	the ex-student reports self-efficacy but objective evidence shows otherwise

b. *Quantitative findings*

Table 5.13 The effects of the factor 'self-efficacy'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Self-efficacy'	40 (56%)	+49	-23

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = self-efficacy marked	10	43%	+21	0	0%	-	1	17%	+1
2 = some specific/ limited	11	48%	+14	2	13%	0	1	17%	+2
3 = little self-efficacy	0	0%	-	6	38%	-10	2	33%	-4
4 = contradictory evidence	0	0%	-	0	0%	-	0	0%	-
TOTAL	21	91%	+35	8	50%	-10	4	67%	-1

The ex-students whose reported self-efficacy was contradicted by evidence did not achieve fully corroborated output. Otherwise the differences between the different output groups are clear. Ex-students who achieved real outputs reported or exhibited the higher categories of self-efficacy, whereas those with zero or unchanged outputs tended towards the lower ranges.

c. *Qualitative findings*

The analysis is not concerned with how self-efficacy was gained, but rather with the mechanisms through which it affected output either positively or negatively.

A very important mechanism was the increased confidence which greater self-efficacy imparted: 'I've more confidence - that psychological improvement I had' - which was confirmed by her superior: 'Whatever training she has got - as far as [name] is concerned, she *can* do it' [67]. The observation that greater confidence leads to action is borne out by the comments of colleagues of another ex-student: 'Beforehand she was insecure in herself; she has a lot more confidence, takes more initiative' [21]. The new self-efficacy enabled the ex-student to hold her own in a new situation: 'As soon as I came back I was put on the committee to make the curriculum to upgrade auxiliaries to SRNs. I felt confident; if it had not been for this ..' [20] Greater self-efficacy led to less fear: 'Now I think I'm more confident; maybe also the fear of not knowing much before .. I've changed' [35]. Some ex-students came to self-efficacy more easily, by virtue of their robust personalities which could embrace failure: 'Failures are part of my life, I have them all the time. If I don't fail how can I learn?' [69].

As a result of increased self-efficacy and confidence ex-students started doing new things, or old ones in a new way - this was the basic mechanism through which self-

efficacy influenced output. In most cases it was a question of correcting what had been done sub-optimally before: 'Before I was not so much used to include video in sessions. I said to myself, I saw it, we have the facilities, so I tried that and the slides' [3]. A further example: 'The emphasis the TPHC course made was: until you've seen a person do it you can never say he's learnt it. We made them do that; the follow-up also helped' [61]. Changes were made, or not, according to need and preference: 'I continued lecture method, but in between do case study - giving problem, asking questions, posters. More two-way than before; more assignments; not group work in class. Simulation for diseases - how we are going to do, for a man shivering' [65]. Sometimes a very specific need led to implementation of a very specific idea - for instance the use of puppets: 'This whole idea - you tell the puppet what's happened, rather than the pupils. You tell a story, you're not saying, "You're awful" .. The team made puppets with wooden spoons' [86].

Some ex-students started dealing with educational issues of which they had been unaware: '.. we used to call villagers to come here. He changed things; we had to take training as close as possible to the people ..' [11]. Other ex-students tackled issues they would not have attempted before. A junior lecturer questioned the national curriculum: 'The first thing: I went back to the school curriculum. The ways the objectives are put, and the teaching activity .. for example selecting a topic; how they put it in the curriculum. There is too much time for certain objectives' [3; also 34]. Another reported that '.. after looking at the content I thought that if we don't improve it we won't reach the objectives. It needed more stress on practical rather than a lot of theory. You should get it by looking at the needs of people' [29].

Another manifestation of greater self-efficacy was the desire to influence the system more widely, and the belief that this was within one's power - for instance, by challenging colleagues in the workplace: 'Change the teachers. We all had the same way of teaching, even teachers could change their way' [34]. In another example: 'He brought systematic planning in. We had to pass our training proposals to him: objectives, tasks etc.' [11]. The long-suffering superior of an ex-student reported that '.. she's always here with ideas - she wants to put this right here - she brings ideas on how best we can put things right' [20]. Several ex-students were sufficiently confident to be able to run 'training of trainer' courses by themselves, or to teach on them [61, 77, 79, 82].

Closely linked to this desire to change the system was the phenomenon that in some cases the self-efficacy appeared to impart a missionary zeal. One ex-student was inspired by the logic of job-related curricula: '.. do it properly: job description, task analysis - it's still clear in my mind.' With the zeal came perseverance: 'I was pushing to go through that system. They were not all happy; I thought it needed to be done' [1]. Another was inspired by the need for two-way communication in training: 'The method of teaching I had to change. I wanted to use more demonstration than theory, which was one-way - I wanted to get two-way traffic' [34]. Another tried hard to convey to colleagues the need to be student centred: 'I feel now they're *my* students, not finish topic and go away .. I forget that teacher and student is something different. This is the most important thing for teaching really' [67].

Lack of self-efficacy had negative effects on output. In some cases ex-students had clearly not yet reached self-efficacy with respect to certain aspects of teaching - for example, assessment of student learning: 'I just joined the friends the way they were - and some of it was quite hopeless .. Remember, I had only 3 months' training, and my inadequacies .. some of the things were very difficult to do' [40]. Another manifestation of low self-efficacy was a preference for activities not related to training: 'He knows it all but he's incapable of implementing anything. I can't force him to go to workshops if he's happy in the office drawing up programmes' [19, commenting on colleague 18]. One simply did not see herself in the role of a teacher: 'I still came back as a bad teacher. Those who are good teachers and enjoy teaching, they make detailed notes. I think teaching is a talent' [44]. Yet another announced that 'I didn't like teaching, I don't think I still like it' - and consequently arranged for outsiders to do much of her teaching: 'For the community module - we have imported expertise .. We invite them; if they're not here we can take up' [55]. Related to this is the observation that culture may affect aspects of self-efficacy. A particular new skill may not be accepted mentally: 'Growing up in a culture .. of authority; how much problem solving and decision making is allowed .. The course tries to change it, but then they are back in the culture' [1, commenting on 2].

Self-efficacy could change with time. On the one hand there is the example of an ex-student who had little confidence in her ability to run a course when she got back - she didn't know how to organise a new training course: 'I'd never done administrative job.' However with supportive help from a new colleague she overcame the hurdle, and a substantial output resulted [82]. On the other was the example of the ex-student who did no training at all for the two years immediately after TPHC - and appeared to have decreased in self-efficacy when opportunities came, since she returned to using the same teaching methods she had used before the course [25; also 55].

Finally, high self-efficacy did not necessarily lead to good output; after relating the numerous abilities of an ex-student, her superior commented that '.. her greatest problem is that she's unfocused, she wants to do everything at once' [52].

Area 4 Personal factors

Factor 4.2 BACKGROUND: the effect of the ex-student's background on her/ his ability to profit by the course, and achieve self-efficacy

From the different stories it became clear that the ex-students' professional and educational background had an effect on the output they achieved - an important finding, since this factor can be taken into account during selection. 'Background' is clearly related to the factor 'Self-efficacy'.

a. *Expressions*

1	a very thorough background meant that TPHC-related self-efficacy was already pretty high before, so the course added little
2	the ex-student's background (in training, general education, work experience) was such that s/he could assimilate TPHC concepts and skills more easily
3	the ex-student's experience of training led to his/ her embracing particular portions of the TPHC material, which met needs s/he had had
4	another, longer, related course really gives the inspiration for her/ his work
5	the ex-student's relative lack of background meant that s/he could only assimilate limited numbers of concepts and skills

b. *Quantitative findings*

Table 5.14 The effects of the factor 'background'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Background'	23 (32%)	+19	-24

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = good, course added little	0	0%	-	0	0%	-	2	33%	0
2 = good, learnt easily	7	30%	+14	0	0%	-	0	0%	-
3 = fair, learnt partially	1	4%	-1	1	6%	-1	2	33%	-4
4 = another course inspires	0	0%	-	3	19%	-6	0	0%	-
5 = little, assimilated little	0	0%	-	1	6%	-2	1	17%	-2
TOTAL	8	35%	+13	5	31%	-9	5	83%	-6

The factor 'Background' was found to operate in only about one third of the 71 cases, having about an equal positive and negative effect on output. The differences between the different output groups are clear:

- Most of those in the 'true output' group for whom this factor was operating had backgrounds which helped them assimilate and use TPHC skills and ideas more effectively.
- For the 'zero output' group the negative effect of another course was most common.
- For those whose output remained unchanged 'Background' was more important than for the other two groups - these ex-students either started from a very high level, or had backgrounds which kept them from assimilating all they could.

c. *Qualitative findings*

A positive effect was achieved when ex-students' training background helped them assimilate new ideas during their stay in Liverpool (and thereby increased their self-efficacy). This effect usually involved ex-students who were already teaching in schools for health workers [3, 9, 61, 65, 66, 69, 78]. Others had a good background in both Primary Health Care and education, so that the course stimulated and excited them [85, 86]. The effect was less dramatic when the course added some impetus and refinement to an already skilled and thoughtful person, giving her a couple of new ideas which she then used to the full [76]. Finally there were two ex-students who were already so skilled in TPHC concepts that the course added nothing to their practice, even if their understanding was refined: 'I mean, if I can say at this time I can make a good lesson plan, it's part of a continuing process: basic training; foundation course; practice; Liverpool. I have learned in each. When you have a little knowledge you can't understand full knowledge of one thing; when you learn again you learn the actual meaning; the third time you can implement it; the fourth stage you become more critical' [83; also 87].

In a number of instances the effect of the three months TPHC course was overshadowed by a longer, more thorough course which the ex-student attended, either before or afterwards. These were diploma or degree courses, with paradigms which differed from those of the TPHC course. In two cases this new paradigm was a traditional, subject based nursing education one [2, 52]; in two more it focused on health education rather than training [24, 48]; in another it focused on district health care and management [22]. These had the effect of directing the ex-students' practice away from TPHC concepts and methods. The negative effect was strongest when the more powerful course was attended after TPHC.

Finally there was the example of two ex-students whose background limited what they could assimilate. A junior auxiliary nurse struggled in Liverpool: 'I found it too high for me .. and my level of education, mixing with doctors - it was a big embarrassment on my side ..' [58]. Another auxiliary had a purely clinical background: 'My friends could not take that; perhaps their background - for someone who was learning for the first time it was too much, for someone who had the idea, like me, it was easy. [Name], from psychiatry, even Primary Health Care was new ..' [44, commenting on colleague 42].

Area 4 Personal factors

Factor 4.3 MORALE: the morale of the ex-student in her/ his post(s).

Evans (1992b) defines morale as 'a state of mind determined by the individual's anticipation of the extent of satisfaction of those needs which s/he perceives as significantly affecting his/ her total work situation'. This is a perception of present and likely future events in the organisation - as opposed to self-efficacy, which is a perception of present personal ability.

a. *Expressions*

1	the ex-student is doing well professionally in a TPHC related work situation
2	the ex-student feels bad about her/ his present situation, but is staying there
3	the ex-student is uneasily working in a TPHC related situation, and is looking for a change in order to advance professionally
4	the ex-student left a TPHC related work situation because s/he felt there was little professional future in it/ was frustrated in it

b. *Quantitative findings*

Table 5.15 The effects of the factor 'morale'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Morale'	22 (31%)	+3	-33

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = doing well, happy in job	1	4%	+2	0	0%	-	0	0%	-
2 = feels bad, staying put	2	9%	-2	1	6%	-1	2	33%	-2
3 = wants to change jobs	0	0%	-	0	0%	-	1	17%	-1
4 = left job in frustration	2	9%	-3	3	19%	-6	1	17%	-2
TOTAL	5	22%	-3	4	25%	-7	4	67%	-5

This factor was found to play a role in output in about a third of the 71 cases - a mostly negative effect:

- There was not much difference between the 'true' and 'zero' output groups, although the latter contained relatively more ex-students who left TPHC related jobs in frustration.

- The factor appeared in a negative sense in a high proportion of cases maintaining unchanged output.

c. *Qualitative findings*

Recognition and appreciation, having one's new skills used by the organisation, appeared as an important factor in maintaining the morale of some ex-students [77]. A highly motivated and productive diploma level nurse wept when recounting the frustration of the years: '.. promotion is not judged by performance - by degree and diploma. Policy is not changing .. That's why I wanted Master's course. No recognition, frustration - so why do things? so what is the use? Junior people are promoted to higher posts' [65]. Another gave up her job in a fury for similar reasons. Although she was the only trained trainer she was not put in charge of training in her organisation, nor was she consulted when another was appointed to the position [36].

Other ex-students found themselves in positions they disliked, leading to resignation. One was refused permission to join Primary Health Care teaching, and was sent back to a job she hated in a nurse training school [23]. An ex-student who had been roped into training eventually left because 'I like working not too far from a patient; they had to motivate me to stay' [56]. The unexpected closure of a bilateral programme left one ex-student high and dry, with a posting to a paramedical school - 'Frustration! I felt I was at a high level, I wasn't prepared to let the students pull my knowledge down to their level' [52]. When one ex-student was promoted over a person previously senior to him the atmosphere became so unpleasant that he moved to another job, which had little to do with training [49].

Resources (or lack of them) played an important part in maintaining morale. One particular ex-student illustrates the kind of situation in which ex-students could find themselves. She had far too little time for her work, often working on weekends. Her salary (plus *per diem* allocations) was very low. Equipment for teaching was sadly lacking - there was no overhead projector or video cassette recorder for her to use, and in any case often no electricity. It was hard to get the service of a typist, and the duplicator was constantly out of order - all of which tended to discourage her [32].

More positively, ex-students also left their jobs as trainers when opportunities arose to advance in their professions [81]. A very productive ex-student left her strongly TPHC related job because she was beginning to feel sidelined in her profession and took up a senior managerial post in the region, where the work involved 'Not much teaching - just meetings, writing programmes' [61]. Two left to further their studies - one to do degree nursing (with the eventual aim of becoming a nurse tutor) [47] and the other to complete a B.A: degree full-time [46].

Two ex-students epitomise most of the reasons why teacher-trainers leave for greener pastures. In the one case it was a combination of promotion expectations that were not met ('I had expectations to be like a guide to teaching staff, senior teacher. It didn't happen'); inter-personal problems; rumours that the organisation (a non-governmental organisation) was going to close down; a very low salary; and the offer of an excellent

new position with prospects [84]. In the other innovation was discouraged; support from colleagues was patchy ('.. people are different; in the beginning others were OK, but at the end we were pulling and others were tired'); there was a lot pressure at work ('.. we were tense, working so hard. It wasn't comfortable'); and 'I was employed on a temporary basis, there was no future' [57].

Finally, ex-students sometimes felt trapped in their TPHC related positions, without promotion: 'It's all the same. I'm still a tutor as it was before. That's why I'm stuck teaching here, we can't change our job, unlike [ex-student 81]' [80]. As a result one was ready to move: 'I feel my services are not properly utilised here because of the scope; if I can get a place with a wider scope I can go' [66].

Area 4 Personal factors

Factor 4.4 MOTIVATION: the motivation that the ex-student seemed to have gained from the course and maintained for a while after returning home

In Handy's (1976, pp.31-47)working model of motivation, people calculate how much 'E' (energy, expenditure, effort etc.) needs to be spent so that a *desired result*, which meets a specific *personal need*, will follow. Motivation 'happens' when the person decides to spend that 'E'. This decision is guided by a *psychological contract* - a set of mutual expectations agreed upon by the person and the organisation within which the process takes place.

Once again it is accepted that some degree of motivation must have been present in each case where changes were brought about. However in some cases the stories made it clear that motivation either greater or less than this 'baseline motivation' played a significant role in the output that was eventually produced. These cases are dealt with in this section.

A number of motivators was picked up in the stories:

- The need for meaningful work - for example developing an exemplary project [49, 65]; or preventing rather than curing disease [48]. The status of these ex-students before had been one of boredom and dissatisfaction.
- The logic of the TPHC axiom of 'training for a job', and other new ideas that excited them [1, 20, 23, 73].
- Personal development and career advancement [47, 77].
- A feeling of responsibility - having gone so far and at such expense placed a moral obligation on the ex-student to give something meaningful back [11, 68, 76].

a. *Expressions*

1	the ex-student was powerfully motivated to change her/ his practice in a variety of ways, and this motivation lasted for a long time
2	s/he was motivated to change a few particular aspects of her/ his work, over a shorter period of time
3	the ex-student appeared to be hardly motivated at all, and returned to work without changing anything

b. *Quantitative findings*

Table 5.16 The effects of the factor 'motivation'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Motivation'	26 (37%)	+22	-26

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = strong and long-lasting	8	35%	+18	0	0%	-	0	0%	-
2 = limited, temporary	3	13%	-1	5	31%	-2	0	0%	-
3 = little or no motivation	1	4%	-1	5	31%	-8	0	0%	-
TOTAL	12	52%	+16	10	62%	-10	0	0%	-

The factor 'Motivation' was found to affect output in about a third of the 71 cases. The differences in how this occurred are clear from the table above - the degree of motivation being broadly higher with higher outputs, and lower with lower.

c. *Qualitative findings*

In the ideal situation an ex-student's needs were met by desired results, produced in the organisation - with both parties subscribing to the same unwritten contract setting out how this should happen. In such cases the ex-student was motivated, and decided that it was worth while to add the necessary 'E'. For example, an experienced teacher was employed to write curricula in a national programme. At the same time she appeared to have a strong need to expand and learn: 'If she gets a new idea she tries to adjust, this is her character. Any new methodological approach, she tries to adjust'; 'She constantly reads, learns, brings new things.' A mutually desirable result therefore followed from her decision to exert a lot of effort in applying her new learning - 'Considering everything I've implemented maximally. It depends on the motivation of the people themselves' - which motivation in this almost ideal case was high [76]. In a similar case the head of a national school for health workers felt the need to develop a new curriculum, of which the Ministry approved and which the system could deliver provided others cooperated. He therefore made the decision to spend a large amount of effort to achieve the goal of an excellent new curriculum - 'Initially he had problems getting teachers to draw a curriculum - it's only his insistence' [69]. The head of a training centre for auxiliaries had a specific need: 'I was thinking to make it an ideal training centre, to bring other tutors to come and see.' To achieve the desired result she needed an ongoing injection of 'E' into her colleagues: '.. one or two years they followed that. Gradually some sluggishness, some frustration .. After a little time, if there's no boostering, no supervision .. follow-up is very important at all levels' [65].

Closer to the coalface, a tutor in a national training school for auxiliary nurses felt the need to improve his teaching practice in accordance with TPHC principles. The 'contract' with his school welcomed and supported this, and it was clearly perfectly possible to achieve. His resulting motivation/ effort was observed in a variety of ways: 'A change in attitude: preparing lessons, coming on time'; 'He has become more responsible'; 'He's more interested in the job' - as well as doing voluntary overtime work [3]. A tutor in a nursing college found herself in a similar situation and was highly motivated, but noted about the 'E' that 'It was very stressful to me to change from that old way - it had become a habit to me.' However her need was strong: 'I was excited about the course, so I was able to endure it' [20]. A senior trainer in a rural Primary Health Care training centre also had his needs met (at least initially): 'I've been given full academic autonomy. This professor and the previous one allowed me to work; they support, not bossing me, they are just OK.' As a result 'That gave a very encouraging atmosphere for me, I got interested to work hard' - he decided that it was worth while expending 'E' [66].

Problems with motivation arose in different ways. Some ex-students had work-related needs which had little to do with training. One ex-student who was selected for Liverpool without being consulted essentially saw herself in a non-teaching career ('Well .. my career was nursing actually') and had her mind full of her impending wedding. All the organisation asked from her was occasional teaching, strictly following an existing manual; so not surprisingly she decided not to put a lot of effort into forcing changes - her motivation was low [6]. Another asked specifically for a transfer to a non-teaching situation, in order to be near home to start a family - and clearly had no desire to expend any 'E' in the area of teaching at all [15].

In other situations individual ex-students had conflicting needs, only some of which could be met in the work situation. A senior nurse working in a well-funded community development programme had dedicated her career to Primary Health Care, and had consequently suffered a lack of promotion in her profession. She was a widow with children to educate. If she continued working in Primary Health Care for the State 'I'd be just dumped somewhere'; her motivation/ effort was therefore directed towards supporting her family, resulting in a move to a better paid job as a community development organiser. She felt the need to use what she had learnt, but her motivation for work as a trainer had perforce to be less, '.. so you come back frustrated' [32].

In yet other situations the need of the ex-student had very much to do with applying TPHC successfully, but the organisation appeared unable to deliver the desired results. A tutor in a school for paramedical training felt the need to change the curriculum he was teaching - this had been agreed before he left. However a new director ignored him and employed a consultant. He tried to insert himself into the process, got rebuffed, and eventually decided to stop trying: '.. now it's a question of me doing my work and doing it according to the way I was taught, with meagre resources' [50]. Upon his return from Liverpool a trainer of refugee village health workers in a non-governmental organisation felt the need to assume a wider responsibility for training in the organisation, bettering his position at the same time. However: 'They didn't provide me with any motivation - I just did same old job, people trained by me became my boss; I

didn't like it, I didn't feel happy' [84]. In cases like these the 'psychological contracts' between employee and organisation were clearly divergent. In another example, a specialist doctor in the State service felt a need to justify having gone on the course, by becoming actively involved in training (which she had not been before). There was however no plan to use her in her new capacity; she tried at least four times to make space for herself and came up against a brick wall every time. At this stage her motivation died and she decided to stop trying: 'They have some programmes to teach: ophthalmology assistants, in-service for doctors on eye camps. I haven't tried, I could go to the CDMO to tell him ..' [68].

A final problem has already been touched on above: motivation may flag. The superior of a trainer of medical assistants reported that 'When he came back he was not appointed as a tutor but he was very enthusiastic' - but as time went by: 'I've noticed you have to push him.' He himself felt he was '.. stuck teaching here', in a dull routine, so not surprisingly he decided not to exert himself much after he had made the initial improvements to his practice [80].

Area 4 Personal factors

Factor 4.5 AGENT-OF-CHANGE: the ability of the ex-student to function as an effective 'agent-of-change'

When ex-students returned to their work situation and started applying what they had learnt, the majority were able to get on with the job without too much difficulty - they had after all been sent to acquire new insights and skills, which it was hoped would benefit their organisations. From the stories it has however become clear that in a number of cases the situation was not so straightforward - there were obstacles which stood in the way of the ex-students as they tried to innovate. In such cases it was necessary for them to change part of the system within which they were working, and for this to happen they had to enlist the support of others in that system - colleagues and superiors. In short, they had to become agents-of-change. The need for this kind of initiative was clearly inversely related to the logic of their 'entry' into the course [e.g. 36, 47, 65, 69].

In other cases ex-students also became agents-of-change, not from necessity in their own work, but because they felt the need to tell others what they had learnt, so that they too could improve their practice [e.g. 1, 20, 67, 86]. In its simplest form this manifested itself in the ex-students sharing informally with colleagues and superiors what they had learnt, on their return. This was very common, a normal event, and is therefore not included in this analysis: 'I talk to my colleagues about the kind of teaching we learn in Liverpool - eye contact, discussing with them - it's new to [name]' [3]. Sometimes such simple sharing took the form of a written report, and/ or a presentation: 'He made a three page written report; he did get a copy to me' [47; also 51]; 'They asked what you've learnt. I narrated, I showed portfolio, I don't know if they've learnt' [65; also 83]. Some ex-students didn't get this chance: 'I wasn't given the opportunity even to present in a workshop or seminar' [51]. Sometimes colleagues wanted feedback and didn't get it: 'He's not shared with me what he's learnt - not beyond, "Oh it was marvellous, it was great."' [47].

A third group also changed the practice of other trainers of health workers, but as part of their job - it was one of their functions to run 'training of trainers' courses for others, and they did not need to change the system in order to do this. They were therefore not true 'agents-of-change', and are not discussed in this section [61, 62, 73, 76, 79].

The reasons why agents-of-change succeed or fail are discussed under the sections dealing with the other 'factors'. 'Authority' seems particularly important in this respect; also 'Support', 'Openness' and 'Motivation'.

a. *Expressions*

1	the ex-student thought carefully about her/ his plan of action, and systematically and successfully influenced others to accept it
2	the ex-student influenced others to some degree, but by accident and example rather than design
3	the ex-student's attempts to win others were problematical for various reasons - e.g. bad inter-personal relationships, differing expectations
4	no effort to change things, in situations where that could legitimately be expected to happen

b. *Quantitative findings*

Table 5.17 The effects of the factor 'agent-of-change'

N=71	cases affected N (%)	total positive effect	total negative effect
factor 'Agent-of-change'	18 (25%)	+11	-11

N=45	true output (N=23)			zero output (N=16)			unchanged output (N=6)		
expression	N	%	effect	N	%	effect	N	%	effect
1 = systematic planning	0	0%	-	0	0%	-	0	0%	-
2 = accidental influence	9	39%	+9	0	0%	-	0	0%	-
3 = problematical attempts	1	4%	-1	3	19%	-4	0	0%	-
4 = no attempt where needed	0	0%	-	1	6%	-1	0	0%	-
TOTAL	10	43%	+8	4	25%	-5	0	0%	-

There were no instances among those with validated output of systematic action as an agent-of-change. In about a quarter of the 71 cases ex-students acted wittingly or unwittingly, successfully or unsuccessfully, as agents-of-change. The effect of such action on output was more or less equally positive and negative.

The differences in expression of this factor, between those who achieved real output and those who did not, is clear. There were three cases in the zero output group where attempts to influence the system backfired, and had a negative effect. It is important to note also that there was not one example of a planned, systematic attempt to bring about change, in any of the 45 cases with validated outputs.

c. *Qualitative findings*

Of the four 'change agent roles' of Havelock (1973, pp.7-9), the most common in this group was that of *catalyst* - prodding the system to be less complacent. An ex-student in

a nursing college is a good example: 'The boss? Ask her. Day in and day out I go in with my suggestions. The rate she is moving with me is low; I don't know if it's just the system' - then, from the perspective of her superior: 'She's always here with ideas - she wants to put this right here - she brings ideas on how best we can put things right. The problem comes when things are not there' [20]. The colleague of another reported that 'He changed things; we had to take training as close as possible to the people, for many reasons .. He had to tell us, and convince the programme manager - he did' [11]. An ex-student pointed out the need for sustained pressure: 'Whenever we are supervising we must give evaluation .. It's like a doll with a key - it dances for a while, then it sits down' [65] - this same need emphasised graphically by another: 'I'm kicking arse all the time: shaking, fighting, holding workshops, getting them to do training needs assessments' [19]. The need for credibility of such a catalyst was highlighted in the case of two ex-students: 'The problem is that people as they go out - they come with their own ideas. Then they try to implement, but it depends on who they are. If it's the principal, or the first PhD - maybe because of her quality she's accepted as a change agent. Or the position you hold' [51]; and: '.. it' s difficult for her status person to come to front, we bring them to the front to discuss - with planning meetings and group discussions' [67]. In the process of pressurising things could go wrong: 'I stepped on other people's corns. The programme was so stereotyped, you had to do it this way, according to the routine - not your own way' [57].

The second most commonly assumed role was that of *solution giver* - offering expertise at an opportune time. Sometimes the ex-student was approached for advice: 'They'd say, how are we supposed to teach? .. I tried to explain the importance of practical experience' [36; also 66]; or again: 'This week we received a visitor from [group] who said, "I heard you doing a presentation with a story - can you give it to me?"' [59]. Others offered advice at opportune moments: 'My skills came from [ex-student]. He is a very good instructor. He lets you present something - lets you give it; then he says you have to improve these areas 1-2-3' [29; also 82]. Another example: 'He was talking about management training, techniques they were going to use. It was very good .. he was saying, "Why don't you try this?" It was very good' [73].

Of the remaining two roles there was one example where that of *resource linker* - bringing together needs and resources - was used: 'I managed to send quite a few on TOT courses' [69]. The role of *process helper* - facilitating the process of group problem solving - appears not to have been used at all.

Of the five strategies of agents-of-change (see Table 1.6) the most commonly used was *normative/ re-educative* (Benne and Chin, 1969, p.34). These were deliberate efforts at promoting change, done with varying degrees of intensity and formality, and involving larger and smaller groups. On the one extreme was the ex-student who upon her return she spent an hour each day for 15 days, discussing what she had learnt with her colleagues - one of who reported that '.. we sat together. What she was doing, what course was, what was interesting' [67]. Another deliberate transfer involved only one colleague: 'There was no designed TOT but he wanted to put in me what he had got - training on the job .. he sits and listens, gives feedback' - and was followed up: 'We had to pass our training proposals to him: objectives, tasks etc. He supervised us in class'

[11; also 34]. In other cases the effort was opportunistic and less intense: 'Say, OSPE. After introducing it I gave them the page number of the book, they read. we worked together' [73; also 77]; and for a one-to-one transfer, 'The other graduate from the College of Nursing - we've a strong link. She's come to me to say - showed me her lesson plans, we discuss' [47].

This strategy had its problems. One ex-student was reported not to be very good at networking or education: '.. he is very forceful. He doesn't relate to my boss, he bypasses him, which puts me in a difficult position. I have to bridge the gap'; and: '.. he works militarily - he wants things to be done quick-quick-quick. I don't believe learning is like that. When we go for training he wants people to move at the same pace that he is' [19]. Another felt the strategy didn't work very well: 'Other colleagues: hammering and hammering and hammering to do new things. Very few people are sincere; others cannot move; we can expect, but we are undone' [65].

Three other strategies were occasionally used. *Problem solving* (Havelock, 1973, pp.153-168) was used by the director of a national training school: 'After this course I was more competent in organising things related to training, and I could influence a lot of my staff here by instructing them of my policy. I could instil in them what I wanted in this work .. First I put it across to colleagues; when they agree I put up a proposal' [69]. A busy tutor negotiated with her colleagues, who report that 'We worked together to find the best way of teaching, for example oral rehydration: telling stories; drama; pictures - also making ours: to make a point' [86]. Again this strategy was not always well used. It was reported of one ex-student that 'His relationship with other people to get things done - it' s OK if they are not his superiors .. "Acquisition of resources" skills are needed, working with people who are your superiors. He complains and shouts, he's not doing it very well.' [47].

The strategy of *demonstration* (Gale and Grant, 1992, pp.10-17) was also used occasionally. The head of a school for auxiliary nurses looked for a wide effect: 'I was thinking to make it an "ideal training centre", to bring other tutors to come and see' [65]. Others tried to demonstrate to groups in their immediate situation: 'Now I'm training them; when I'm in class teaching, they have to sit in and watch, and they help with preparation of lessons for dais' [85] - and also individuals: 'She said she was interested in teaching; I took her in the class when I'm teaching' [34].

The final strategy occasionally used was *promoting ownership* (Gale and Grant, 1992, pp.10-17) - again for groups or individuals: 'I always get others to do it in a group - I give a little directions. My view is: most can make use of it (the Liverpool method)' [69]. When an older project member felt threatened by the new abilities of an ex-student (especially when she was asked by the overall boss to take over that one's teaching) she dealt sensibly with the issue: 'In some way it was a big problem, but I didn't let it affect me. I've asked her to join me, we do it together' [82].

The strategy *sanctions/ rewards*, mentioned in the literature, was not used at all.

In Chapters 3, 4 and 5 the findings of the research were given: the output; the nature of the 'entry' process and its effect on output; other factors influencing output. In the final chapter the significance of these findings is discussed, as well as their implications for the future.

Chapter 6 Findings - the implications

In Section 1.2.2 the objectives of the study were defined:

- To assess the actual output resulting from the exposure of participants to a skills based intensive short course in education methods for health workers working in developing countries.
- To describe the process whereby participants enter into the course, and analyse the relationship between 'entry' and output.
- To explore other factors that may influence participants' output.
- To develop a methodology to achieve these objectives.

The methodology to achieve these objectives was developed and applied, and the findings are given in the preceding chapters. This final chapter considers the implications of the previous chapters.

The present study indicates that the 'Teaching Primary Health Care' (TPHC) course delivered an output of varying size in a number of cases over a number of years, and failed to do so in a smaller but substantial number. It is clearly very important to try to understand why the negative and low outputs occur (and their obverse, the high outputs), in order to be able to remedy the situation by addressing the causes. This is the main thrust of the discussion in this chapter. To the degree to which the mechanisms of other international courses resemble those of the TPHC course, it should be possible to apply the findings of the present study to them as well. The case of the TPHC course has been studied in depth. It is therefore likely that the findings about at least some of its elements/ processes will 'fit' those of other international courses.

The TPHC course was trying to achieve a paradigm shift, or at least to contribute towards one - this is the *raison d'être* of such courses. In this case it was the traditional teacher centred, knowledge overloaded, apprenticeship type of training for health workers that needed to be shifted - a very deeply entrenched paradigm, having been practised for a long time in scores of training centres and programmes throughout the world. Different opinions are held about the likelihood that individual courses will achieve such shifts. At the one extreme there is the position that a given course probably increases the number of practitioners who adopt a new paradigm, which it is hoped will sooner of later lead to a critical mass being achieved (WHO, 1997, p.14). At the other is the 'ideal' position, where a course is seen to be only one component of a concerted, thoroughly planned, multi-pronged, widely supported and negotiated process of change. In such a case a formal educational needs assessment would be done before setting up the course (Elton and Manwaring, 1981). Most of the utilisation of international courses probably falls somewhere between these two extremes. In the case of candidates sent on the TPHC course there were certainly instances where something close to the 'ideal' situation was operating, but they were in the minority. In the discussion below this critical issue is explored in more detail.

6.1 Introduction: the course process

One of the central problems of international courses like TPHC is that the student body is likely to be exceptionally diverse - in terms of educational background, profession, work experience, and present and potential future employment. This stands in contrast to in-country post-graduate training which usually serves a very much more homogeneous student population, the situation of which is familiar to those running the course. This diversity is potentially both a disadvantage, in that it is unlikely that a particular course with a particular content could meet the educational need of every individual in such a student body; and an advantage, in that it means that there is a greater chance that at least some of the students will find at least some of the content relevant to them. In order to minimise the disadvantages such courses need to take measures like the following:

- Asking candidates to come prepared with information about their particular situation, so that they could attend particularly to learning related to their own problems.
- Insisting on regular and systematic reflection by students, about the application of their learning to their future work
- Including in the course a substantial project, in which students apply what they are learning to a priority problem in their work situation.
- Updating portions of the course content, as additional needs are uncovered for example during consultancy visits to potential client countries.
- Providing a variety of modules to select from, or the possibility of electives (Harden *et al.*, 1984).

The second and third measures in particular enhance 'the cognitive processes which constitute professional thinking', the third strand of Eraut and Cole's (1993) definition of capability. For international courses these measures constitute a kind of minimum requirement for responsible use of public funding.

In the present study the TPHC course process in Liverpool was judged to comply well with the first four of these requirements (not the last), and therefore not to constitute a significant barrier to its subsequent successful application. The course was able to meet the needs of at least some of its students throughout its lifetime, with examples of proven output from 1982 to 1992. A lack of adaptability in the face of diversity is however likely to decrease the chances of meaningful output, and a comparative study of output of courses which differ in this respect would be useful.

6.2 Methodology

Developing a suitable methodology has been a crucial part of this research. It was realised from the outset that any discussion of the effect of a course, and of the factors that affect such an effect, depends on a quantification or at least a ranking of the output resulting from it. The need to establish output is equally acute if a judgement is to be made (as sooner or later it must be) about whether an investment in such a course is money well spent. 'Output' as defined in this study (the product of quantity and added quality) is well suited to judgements of this nature, since it is a combined measure of course quality and an environment conducive to application of what has been learnt. Key questions are how this methodology can be improved, and whether it can be used for other similar evaluations.

6.2.1 Key features of the present methodology

The case study method

The choice of the Type 4 case study (multiple case, multiple unit) of Yin (1989, pp.46-59) proved workable, and in at least one instance essential: the crucial discovery during the study that there will inevitably be a substantial number of cases where outputs cannot be validated on available evidence, and will therefore remain 'uncertain'. This is a limitation which the use of a 'before-after' design will not remedy. As was shown in Section 3.7, the corollary is that it is impossible to relate specific variables to output statistically - carefully crafted experiments will not work, even if they were able to control for the host of variables, which is unlikely (Hamilton, 1994; Goldstein *et al.*, 1993). The factors influencing output have to be determined by other means - for example, by the process of logical deduction from the events in the stories of case studies.

The case study approach was also important in addressing the gain-score problem (Hamilton, 1994). The extreme variability of the student population requires that individual baselines be set, so that the difference that the training makes (Patton, 1982) can be determined. The establishment of a valid baseline is problematical, even if an on-site visit were to be made for that purpose: at the time of the visit an ex-student might not actually be using a particular skill that s/he had previously learnt, and for a valid baseline to be established recall (with substantiating evidence where available) would have to be used to fill in the gaps. The establishment of a 'phantom control' (Burgoyne and Stuart, 1977) by painstakingly reconstructing the pre-course situation within a case study is a reasonable alternative - probably the only one, if time and funding do not permit multiple visits over a number of years. A similar scenario exists regarding the establishment of the full post-course level of performance, where evidence may also be missed due to faulty recall. This is clearly not a problem of the case study method, but rather of the nature of the population of ex-students, and the type of work they do.

A further advantage of the case study method and its 'phantom controls' (Burgoyne and Stuart, 1977) also became apparent. With this method it becomes possible to determine

(even if imperfectly) baselines and resulting outputs for all cohorts, even the very early ones. If only very recent cohorts had been studied in a 'before-after' design, the 'halo effect' of enthusiasm not yet ground down would have been potentially present in every case. The Hawthorne effect (Roethlisberger and Dickson, 1950, pp.88-89) would similarly have been present, since both ex-students and their superiors would have known that the repeat visit was coming. And finally ex-students who only started producing a major output after a few years would be missed [1, 86].

The case study method also made it possible to encompass much of a very wide-ranging, multi-factorial process conceptually - a prerequisite for a understanding more than just a few of the parts which make up the whole, which understanding again is a prerequisite for attempting to manage the process more effectively. In the same way more complex effects like 'learner centredness' or 'confidence' could be identified from the stories, which would have been difficult to itemise as points on a checklist.

Judgements of capability and output

In collecting evidence to corroborate interview claims all the methods advocated by Eraut and Cole (1993) and Chambers and Glassman (1997) were used, except one:

Table 6.1 Methods used to corroborate evidence

• direct observation of 'real' practice (together with questioning of candidate, colleagues, clients)	• *used, but not much*
• simulated practice	• *not used*; insightful descriptions of particular practices accepted however
• witness reports of work done	• *much used*
• scrutiny of naturally occurring products of work (needing an understanding of the context, and supplemented with questioning)	• *much used*: curricula, teaching aids, assessments etc.
• scrutiny of logbooks and other 'portfolio evidence'; reflective reports	• *much used*: lesson plans, course plans, annual reports
• setting standards/ statements defining competence against which judgements have to be made	• *made and used* (see Appendix 3, Section A3.3)

The judgement of the quality of evidence against the standards set presents a problem. It is not only the abstract quality of a skill that has to be judged, but its correct and sensible application at the appropriate time and place (Level 3 'potential', Level 2 'output' - see Chapter 1, Sections 1.4.1 and 1.4.2). According to Girot (1993) and Benner and Tanner (1987) this kind of judgement is inevitably intuitive, and has to be

done by an 'expert observer' who makes dichotomous/ normative judgements. While accepting the reality of the need for the expert observer's personal judgement, this position may however open the door to an unfettered and random subjectivity. Accordingly the measures taken in the present study to discipline such judgement are strongly recommended:

- Setting criteria wherever decisions have to be made.
- Insisting on corroborative evidence for decisions about output.

This was especially important in view of the fact that researchers conducting similar evaluations have of necessity to gain a very thorough knowledge of the course content and process, in the course of which they become to a greater or lesser degree 'insiders' (CARE, 1989, pp.1-8).

6.2.2 Improving the methodology

There is no reason why the present methodology cannot be used to evaluate the output due to other international, post-basic courses of a practical nature, and the present experience indicates that it can be improved.

Improving the sampling

The essence of sampling for this kind of evaluation must be to achieve representation. The nature of the population, and constraints of time and money, preclude random sampling even if it were stratified - it might lead for example to having to visit Kiribati to see one ex-student. The effort made to achieve representation was constrained initially by not knowing whether it would be possible to trace ex-students who had not responded. It is very significant therefore that almost all the ex-students in a country could be traced with little difficulty, even if they had given no indication of knowing that the visit was about to take place. Sampling can therefore be done with the assumption that almost all ex-students will be traced (provided preparation is at least as thorough as in this study).

A particular variable that needs to be considered in improving sampling is 'workplace' (see Table 2.12), where it was found that the sample contained too many ex-students working in 'institution and community'. Since countries with substantial numbers of ex-students were given preference (for the sake of cost containment and convenience) the sample contained disproportionately many groups of ex-students *working in the same institution*. This had the advantage of better triangulation (stories fleshed out by peer evidence) but resulted in the sample containing cases with very similar stories [8,10; 16,17,18; 26,27; 37,38; 39,41; 53,54,55,56; 60,61,62; 79,80], as well as an under-representation of lone workers. This aspect needs to be taken into account in other studies of a similar nature. At this juncture it appears that countries should be selected which have a number of ex-students fairly widely scattered in them, including perhaps one smallish group in a single institution.

Improving the harvest of cases with a validated output

The difficulty experienced in validating interview data about the nature of output was discussed in detail in Section 3.3.2. With the understanding gained of this problem,

steps may be taken to improve the situation, so that the harvest of cases with validated output is improved. These steps are given in Table 6.2.

Table 6.2 Measures to improve the harvest of fully validated cases

problem	possible solutions
The ex-student might have moved on to another job, so that corroborative evidence for the previous job is not available.	The old site would have to be visited with the ex-student (to identify documentation) - difficult. • *Try nevertheless to include such visits in the itinerary - find out details beforehand.*
A failure to observe activities that need to be observed, because of clashes in scheduling.	• *Get a very specific commitment beforehand, including dates.* • *Plan itinerary accordingly.*
Activities observed might not be a true example of ordinary practice.	• *Get a very specific commitment to demonstrate typical activity.* • *Corroborate from other sources that this is typical.*
Due to unexpected snags in the researcher's travel arrangements he arrived too late for planned activities.	No obvious remedy (ex-students had all been asked to be flexible, in case of just such an eventuality).
Colleagues/ superiors cannot corroborate information because they do not work together closely with the ex-students.	No obvious remedy.
Significant colleagues with important information to share are away on other duties.	• *Get a very specific commitment beforehand, including dates.* • *Plan itinerary accordingly.*
Colleagues or superiors might not be reliable in their testimony.	No obvious remedy (all had been carefully asked to help establish the reality of the ex-student's output).
Documentation was not available, because the ex-student simply did not produce any.	No obvious remedy (cannot be omitted from the sample, since may be a case of zero output).
The contribution of the ex-student to available documentation cannot be ascertained with sufficient certainty.	No obvious remedy (all efforts were made to substantiate authorship).
Ex-students deliberately withhold documentation.	No obvious remedy (all had been informed that the course was being judged, not the ex-students themselves).

Ex-students with many formal educational inputs cannot attribute particular knowledge or skills to the TPHC part of that input.	No obvious remedy (other than both a pre-course and a post-course visit).
Some ex-students were so busy that it was hard to find enough time for data collection.	• *A very specific commitment beforehand to spend sufficient time with the researcher.*
The ex-student could only be traced at the last minute, so had not prepared; also, time was short to collect data.	No obvious remedy (every effort had been taken beforehand to trace ex-students).
The ex-student was away from work on sick or maternity leave.	No remedy for sudden illness. • *Find out beforehand if pregnancy/ chronic illness is likely to prevent a successful visit.*
Greater possibilities of misunderstanding due to a poor command of English, or strong local accents.	No obvious remedy (these ex-students had sufficient English to pass the course; to ask if they need a translator, and to arrange one, is probably unacceptable).

The percentage of cases with validated outputs can therefore probably be increased if the following steps are taken:

- Asking for a specific commitment from the ex-students: to spend enough time with the researcher; to arrange a demonstration of their normal activities at an agreed time; to arrange the presence of significant colleagues.
- Where possible visiting the sites of previous jobs of those who have moved.

It is probably not wise to leave out ex-students who do not give the required commitments, since some ex-students who claimed to have no time for the researcher, or who had no students available to teach, were found to have produced a zero output. To gain a full picture it is unfortunately necessary to visit ex-students who do not really want to be visited.

For some cases it will clearly never be possible to get confirming evidence - Eraut and Cole (1993) even report this problem in a sophisticated United Kingdom setting. A sample size greater than the required number of usable, substantiated cases will be needed for follow-up studies of this nature, since most will rely for corroborating evidence on performance in the field (clinical or environmental health courses); or documents as naturally occurring products of work (management courses, courses in information systems); or a mixture of the two. The present evaluation required a sample size double the number of validated outputs obtained. It may be that for other courses, with other subject matter and student populations, a higher or lower proportion will have substantiated outputs - for example management courses may have more documentation/ written products of work (which are more available than observation of practice, but may be less easy to attribute unequivocally to the ex-student).

Possible alternative designs

The 'separate sample pretest-posttest' design (Campbell and Stanley, 1963, pp.171-246) has the advantage of being theoretically stronger. It does however present the following problems:

- Extra cost. This could be offset by making the sample smaller, and taking steps to get a higher proportion of cases with corroborated evidence of output.
- The determination of long-term output (which was substantial in the present study). To overcome this constraint more than one cohort would have to followed up (to be representative of the whole of the course over the years) over a number of years (which would be very costly).
- Some pre- and post-course information would still depend on recall, and need to be validated by alternative sources.
- The 'halo' and Hawthorne effects are likely to be particularly marked if only the latest cohort or two are used.

Another possibility for establishing the pre-source control for members of a cohort would be a 'control by testing' - a combined interview and assessment (written and simulation/ practical) on the first day of their course. This would have to be done yearly for a number of years prior to the eventual follow-up visit, as part of a long-term evaluation plan.

The 'posttest only control group (*ex post facto*)' design (Campbell and Stanley, 1963, pp.171-246) may be possible in circumstances where the course content is specific and unique - where it is unlikely that controls will have had prior exposure to the course content in any form.

A final possibility with merit is a combination of the pretest-posttest design, and the 'control through case study' design:

- The present case study design (with its 'phantom control') (Burgoyne and Stuart, 1977) for ex-students from previous cohorts, taking steps to improve the harvest of validated cases.
- A two-visit design (for example a year apart) for ex-students from the most recent cohort.

If a 'control by testing' is also established for the latter group, the pre-course visit will provide an opportunity to validate such a method for achieving a baseline.

Issues of cost

In Section 2.8.3 the cost of follow-up evaluation was discussed. It was found that a follow-up evaluation on the scale of the one under discussion cost about 4.5% of fees paid, and 9% of the cost of running the course. The salary of the researcher makes up about two thirds of the costs incurred, with other expenses making up the remainder. In view of the considerable expense involved it is clearly desirable to keep the sample size as low as possible.

In the present case the sample size was 87 (31%). About half of these (45) had a fully validated output; about half of these again (23) had produced a real output. The question is how many cases with validated outputs (real and absent) are required, to obtain the information which other course organisers need to manage their courses better:

- It depends on the nature of the course. A short, simple course, with limited and specific application, would probably need a smaller sample.
- It depends on the nature of the subsequent work. If the work inevitably produces many tangible products, a higher proportion of outputs would be validated and a smaller sample would be needed.
- It depends on the variability of the study population. If it is fairly homogeneous, a smaller sample will probably suffice.
- It depends on the information needs of the researcher. If s/he only needs to know how relevant the course material is (and not for instance how the systems function within which it is going to be applied) a smaller sample would be adequate.

A further consideration is whether only follow-up is able to supply the information that managers of similar training courses need. Although postal questionnaires and diaries can provide useful information, the data they provide cannot easily be validated by triangulation with other sources. Follow-up visits are especially needed to be able to understand the systems within which ex-students have to operate; and such understanding is a prerequisite for structuring learning so that it stands a high chance of being used in the work situation.

6.2.3 A model for future application

In the light of the experience gained by this study recommendations can be made for future evaluations of a similar nature. It is assumed that the evaluation needs to be rapidly completed, and that funding is only available for a limited number of visits.

Figure 6.1 A model for planing and executing follow-up evaluation studies

- Taking a sample:
  - * assuming that virtually all ex-students will be traced
  - * double the desired number of cases with validated outputs
  - * representative, according to the usual biographical and geographical variables; including all cohorts
  - * selecting countries with a good geographic spread, and only one group of ex-students who are colleagues in an organisation.
- Using the multiple case, multiple unit Type 4 case study method, to set a 'phantom control' (Burgoyne and Stuart, 1977) and at the same time to determine post-course output and its determinants.
- Taking measures to improve the harvest of validated outputs, mainly through very careful gathering of information and negotiations before the visits.
- New research which attempts to set a 'control by testing' for the most recent cohorts, at the training centre, before the start of their course.

6.3 Output

The model of output that was developed in the course of the research has a number of advantages, which make it potentially useful for the evaluation of output in other courses:

- It is a logical reflection of reality: an amount of 'improved learning' produced, over a period of time.
- It is easy to conceptualise: a lump of 'teaching/ learning', leavened by 'additional knowledge and skills'.
- Both components - 'quantity' and 'added quality' can be measured.
- It is an indicator of the whole system:
  * The *quality* indicates the increase in potential/ capability - a reflection of the effectiveness of the training (Eraut and Cole, 1993).
  * The *quantity* indicates the space accorded to put this capability into effect - a reflection of the adequacy of the performance system (Carefoot, 1987, pp.24-26).

6.3.1 'Quantity' of output

If quantity of output is to be compared or ranked in situations of considerable complexity and variability, the research found that:

- It is necessary to identify an *organising principle* of quantity - the highest common denominator to which the output can be reduced. In this case it was 'amount of learning potentially affected'; for other courses it will be something else - e.g. for courses in clinical care it could be 'patients seen suffering from conditions with which the course concerns itself'.
- The *factors affecting quantity* have to be considered: the proportion of time spent on, and amount of course-related activity; the duration of such activity; the effect of the exercising of the skills; the ex-student's contribution to the activities; dissemination of skills learnt; the geographical distribution of the effect.
- Since quantity of output is so multi-faceted it would be false to try to represent it as interval data. In stead a *model* with a few broad ordinal categories needs to be drawn up, based on the 'organising principle' and taking account of the factors (see Table 3.6). The model delivered a more or less normal distribution of quantity categories.

Quantity of output is primarily related to the performance system within which the ex-student has to operate (although it could also be enhanced at least temporarily if the course is inspirational). Quantity should be proportional to the logic of 'entry'; to the fit between the course and the nature of the job (Cassels and Shoo, 1990, pp.1-12); to the openness of the work situation to change; to the general environment of the ex-student. Even personal factors like motivation and morale are strongly affected by the work situation.

It is logical therefore to consider 'quantity' as an indicator of the support to output given by the whole *performance system* (Mager and Pipe, 1990).

Practically speaking, low quantity of output indicates likely problems with 'entry' (choosing the wrong course for the wrong candidate at the wrong time) and/ or post-course deployment. Of the 72 ex-students with validated 'quantity' of output, four had zero outputs. This means that 26 (36%) had outputs lower than average (i.e. lower than 'medium'), indicating considerable failure of 'entry' and post-course placement.

6.3.2 'Quality' of output

'Quality' is the entity that deals with the course itself and the effect it had. Measuring both pre- and post-course quality made it possible to determine Patton's (1982) 'impact', the difference the course had made - but only in those cases where circumstances had led to an output. Those it was thus proved had 'reconceptualised' (Friedman and Lipshitz, 1992) - the TPHC paradigm was now guiding their teaching. All evidence for their capability was taken from their work performance, which could therefore be ascertained at Level 3 (see Section 1.4.1), Schön's (1983, pp.49-50) 'knowledge-in-action'. The research design also allowed for the determination within capability of Specific Items dealing with higher level skills such as 'using different methods appropriately'; 'learner-centredness'; 'deep learning'; 'working with more confidence'.

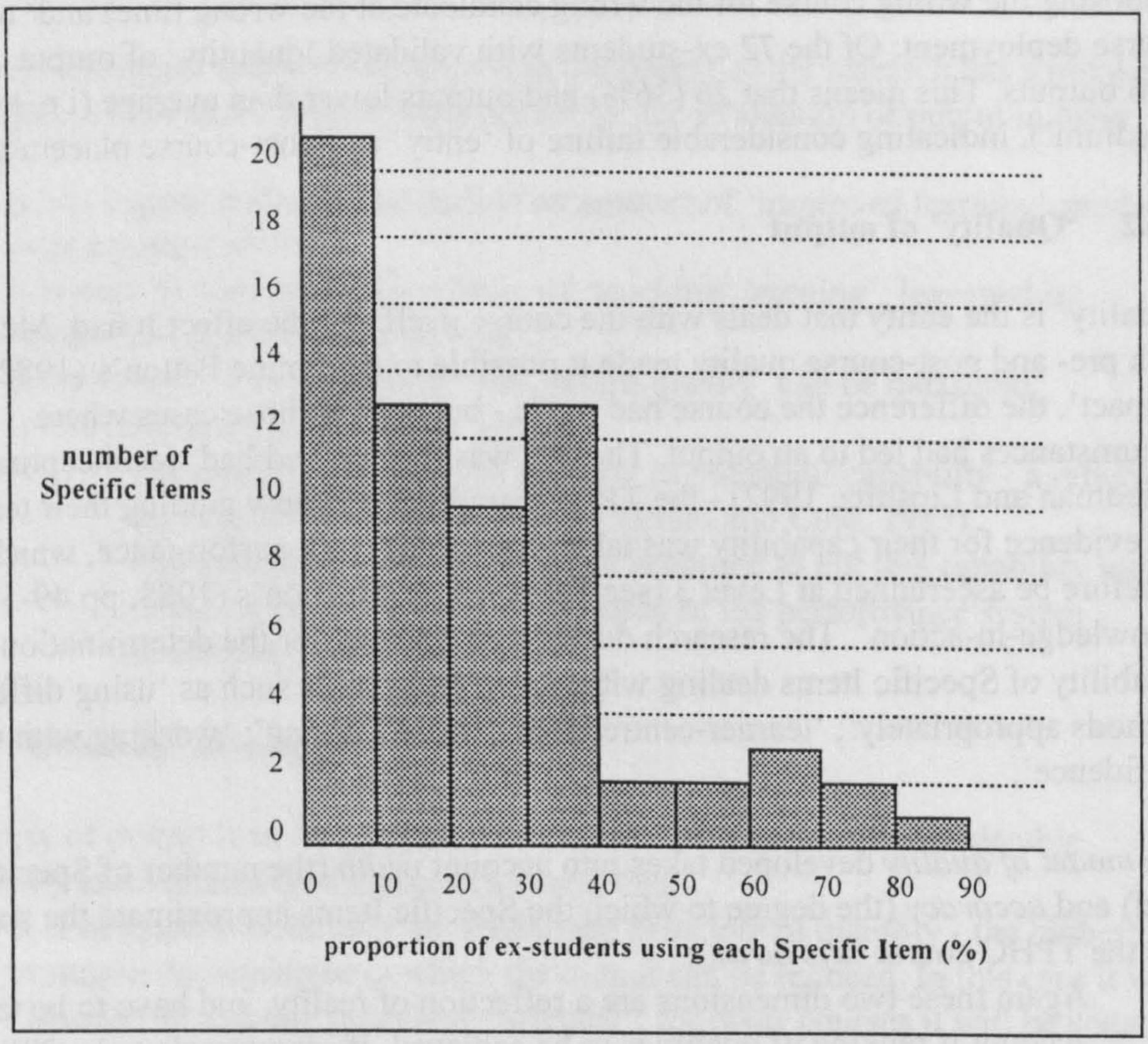
The *model of quality* developed takes into account *width* (the number of Specific Items used) and *accuracy* (the degree to which the Specific Items approximate the standard that the TPHC course lays down):

- Again these two dimensions are a reflection of reality, and have to be taken into account if ranking of quality is to be achieved. If for example only 'TPHC quality' is considered, a case using few Specific Items of a high quality will be ranked higher than one using many Specific Items of medium quality - which would not be a true reflection of reality.
- As in the case of quantity, quality of output in a highly variable population is a complex entity, which cannot with validity be represented by interval data. Again a *model* with a few broad ordinal categories needs to be drawn up, combining width and accuracy as described above (see Table 3.7).
- Once quality can be measured it becomes possible to determine three expressions of quality: pre-course, post-course and 'added' (the difference between the first two).

'Quality' and course relevance

In a highly relevant course almost all Specific Items should be used in a high proportion of cases, when the ex-students start implementing what they have learnt. In this instance the distribution was found to be as follows (using only 33 cases where all or some of the output was substantiated):

Figure 6.2 Usage of Specific Items (N=67)



The majority of Specific Items were not well used - an exponential distribution therefore results, rather than a normal one. A few favourites were well used (by over 50% of ex-students); a much larger number however were little used (by under 50% of ex-students). The most frequently used Specific Items mirrored the guiding principles of the course: a *logical, task-based* approach, and a *learner centred* approach. The average usage of Specific Items for these 33 cases was 24.6% - certainly an under-estimation, since only proven output was taken into account.

It is suggested that the average usage of Specific Items could serve in future as an overall indicator of course *relevance*.

In the absence of similar figures from other evaluations, the interpretation of the present figure must be guided by the following points:

- Not all Specific Items are equally important, in the sense of both their contribution to 'improved learning' and their centrality to the course philosophy.
- In ten of the 33 cases only part of the output was validated.
- The extreme variability in the work situations and backgrounds of the ex-students.
- Question 3.7 of the personal interview (Appendix 1) asked: 'Looking back, are there some things which you think could have been left out, which haven't been useful to you? Which things?' The overwhelming response to this was that the course content was highly relevant and useful.

The present figure of around 25% therefore probably indicates reasonable relevance.

'Quality' and course effectiveness

The effectiveness of the course is clearly indicated by the quality (wider and deeper knowledge and skills) which it adds to its students. As an indicator 'added quality' needs to be interpreted in the light of the following:

- Quality can only be determined in situations where there is an output - evidence for capability has to be taken from performance evidence (Chambers and Glassman, 1997). The absence of output in 22 cases is therefore not an indication of failure on the part of the TPHC course to impart the necessary skills and knowledge.
- Quality at the end of training does not indicate the amount of learning, since some candidates entered the course with high levels of knowledge and understanding. For the same reason 'added quality' cannot be used by itself as a measure of the effect of the course.

'Added quality' can be used as an indicator for the effectiveness of the course, but only when considered in relation to pre-course quality, as in Table 6.3 below.

For the present research the situation is as follows:

Table 6.3 'Added quality' in relation to pre-course quality (N=23)

	pre-course quality			
added quality	*low*	*low-medium*	*medium*	*medium-high*
difference of '4'	1 (50%)			
difference of '3'	0 (0%)	4 (40%)		
difference of '2'	1 (50%)	5 (50%)	5 (50%)	
difference of '1'	0 (0%)	1 (10%)	5 (50%)	1 (100%)
	2 (100%)	10 (100%)	10 (100%)	1 (100%)

The more effective the course, the higher the proportion of cases at the head of columns *'low'*, *'low-medium'* and *'medium'* (for *'medium-high'* it will always be 100%). In this case the proportion is about 50%. In the absence of comparative studies it is again difficult to judge whether this figure indicates an effective course - it is certainly substantial, but could be improved upon.

6.3.3 Amount of output

The method of quantifying output for ranking has been described before (Section 3.6).

It was found that zero outputs were easier to substantiate, since they required relatively little corroborating evidence. It is likely that a number of the 'uncertain' category (42 in all) did achieve real outputs, or at least continued their output unchanged:

- In 10 of these cases part of the output was corroborated.

- The pattern of 'entry' logic of these cases resembled that of those with proven outputs (see Table 4.1) - and logical 'entry' can rationally be argued to be an indicator of the adequacy of the performance system (see Section 6.4 below).
- None of these cases showed unequivocal evidence of zero output.

Regarding the nature of the output, these were found to be predominantly those of Level 2 and Level 3, as defined in Section 1.4.2. The major effect was at Level 2 - 'changes in the work performance of trainees', in the form of increased use of Specific Items in day-to-day teaching work - Phillips's (1983, p.36) 'changes in work behaviour'. There were also however changes at Level 3 - 'changes in the immediate system'. In a number of cases the ex-students passed on their skills to colleagues (Schmidt, 1991), informally and even formally [11, 29, 67, 76, 80, 86]; in others they became leaders in a new movement (Loucks-Horsley *et al.*, 1987, p.101) based on the TPHC course [1, 61, 62, 69, 77]. In the latter cases achievement was very substantial: teaching in whole regions or even countries has been affected, and non-governmental programmes revolutionised. It is remarkable that output was proved to have lasted for a long time in many cases, with some ex-students going on to become managers or even consultants in the field of training - very substantial achievements. It is clearly necessary to follow early cohorts as well, and not just recent ones.

The potential Level 4 - 'general changes in society', or 'health impact' (WHO, 1981a, p.43) is discussed below.

6.3.4 Judging output

With considerable effort it became possible to quantify or rank the output of 'better teaching/ learning' produced by the TPHC course. In the absence of similar studies it is not possible to compare this quantity to what could 'normally' be expected. What can be said is that the output was definite and in some cases high; equally, that it could have been higher.

Two questions follow immediately:

1. How much did this 'improved learning' contribute to a Level 4 output or 'health impact'?
2. In terms of what it achieved, was it worth spending public money on the course from 1980 to 1992?

Regarding the first question, it is notoriously difficult to ascribe changes in health status to a single intervention. All the evaluations reported in Tables 2.27 and 2.29 concentrated on utilisation at work of particular knowledge and skills learnt, and left it at that. When the TPHC course is considered in isolation, and not as part of a much wider system, the judgement is easier to make. The *status quo ante* for the TPHC course was 'traditional' training: teacher centred, information overloaded, hospital based, with skills being learnt more or less haphazardly (Harden *et al.*, 1984). It was the course organisers' contention that this model was widespread in developing countries, to the detriment of the health services there. However:

- The author's own intimate experience of the health services in a developing country with very traditional training leads him to believe that this paradigm, while not ideal, is capable of producing health workers who are able to perform a job effectively.
- Carefoot (1987, pp.24-26), dealing with water supply programmes in developing countries, shows that deficiencies in knowledge and skill account for only a small proportion of performance problems - the rest come from systems problems and individual motivation; similarly Mager and Pipe (1990).

It appears then that training in the style of the TPHC course is probably not a prerequisite for an effective health service. However the same could in all likelihood be said of any course in the health field, if it is considered in isolation. A judgement has to be made about whether the subject matter of a course is a core element of the health system or not - for example by having a group of experienced health professionals establishing whether there is a trail of logic linking training to output (which still begs the question of how large that contribution is). There can be little doubt that 'training' would be considered a core element - with the implication that better training must eventually affect the system positively.

Following this logic the TPHC course can be said to have affected the health system positively in a number of places over a number of years. This brings up the second question: was this positive effect worth the money spent on it? Such judgement must inevitably be done on a case-by-case basis, since the relative importance of 'bad training' as a problem will vary widely. The judgement also has to consider whether the money differently spent (on another core element) might not have been more effective, and whether the same core element could not have been provided more efficiently (for example by establishing in-country courses). Further work is needed to develop a generic method of linking 'output due to a given course' to 'better health care', and of quantifying and costing that contribution. Only then will it be possible to compare the effect (and cost) of training to a set standard, or to that of other courses and even other core elements of the health service.

> What can be said unequivocally is that cutting down on the number of zero outputs resulting from training courses such as TPHC would increase the efficiency of the course.

There is clearly an obligation to determine how widespread the phenomenon of zero output is, and to take the necessary steps to rectify the situation (Hepworth, 1988). Steps to achieve a higher rate of output are discussed in Sections 6.4 and 6.5 below.

6.3.4 A model for future application

The present research has produced a working model of output, which can be used for the evaluation of the production resulting from similar courses, when ex-students are followed up. The main features of this model are:

Figure 6.3 A model for determining output from training

- Determining the quantity of potential output after the course:
  - * *Unit*: decide on common denominator of output, for comparison.
  - * *Determinants*: decide on factors affecting that unit.
  - * Construct categories of quantity, based on this unit and these determinants.
  - * Grade the quantity of potential output in each case, in order to rank cases according to quantity.
- Determining the quality of output before and after the course (the latter being the 'capacity'):
  - * *Width*: decide on Specific Items that the course aims to teach.
  - * *Accuracy*: define the desired quality of each Specific Item.
  - * Construct categories of quality, based on width and accuracy.
  - * Grade pre- and post-course quality in each case, in order to be able to rank cases according to quality.
- Determining the difference between pre- and post-course quality (= 'added quality').
- Establishing a ranking order of output by multiplying the 'quantity' grade with the 'added quality' grade.

This model delivers the following indicators:

Table 6.4 Proposed indicators related to output due to training

entity to be measured	indicator
production resulting from the course	distribution of 'output'
support given by the performance system	distribution of 'quantity'
course relevance/ 'fit'	average usage of Specific Items
course effectiveness	distribution of 'added quality', considered in relation to pre-course quality

6.4 'Entry'

The term 'entry' was coined to describe the events leading up to the arrival of a candidate at the site of training. In planning the study the decision was made to consider 'entry' as a total process, rather than focusing on indicators of the process like 'selection'. The decision was amply justified by the results - a fuller understanding of the whole event was gained: motives, needs, processes.

The principal reason for investigating the phenomena surrounding the entry of candidates into the course was that it is an area which should be amenable to better management. If it could be established that certain patterns of 'entry' were linked to degrees of output, corrective measures could be taken before candidates were admitted to the course. An additional advantage was subsequently discovered: a good understanding of 'entry' leads to a good understanding of the circumstances into which the candidate is going to return:

- The conditions which are going to support or hinder the ex-students on their return are already operating - for example, if a candidate decides to 'go it alone' it is less likely that s/he will have support when s/he returns.
- The understanding of the players at the time of 'entry' will affect output - for example, if they misunderstand the nature of the course.

6.4.1 The significance of the findings

There was found to be a clear relationship between 'entry' and output. In particular illogical 'entry' (including the devious kind) was present in 53% of cases with zero output, whereas only 17% of cases with proven and 24% of cases with doubtful output had illogical 'entry'. This was to be expected, and confirms the importance of 'entry' logic as an indicator of future output. What was surprising was that there appeared to be differences in 'entry' logic within professions (doctors having a much lower proportion of logical ones). Also surprising was a similar phenomenon among candidates who were expatriates, or who were employed by non-governmental organisations. The 'hopeful' motivation featured more strongly in these groups - an individual decision to do this particular course, in the hope that it might be of use later.

The 6% level of deceitful 'entries' was higher than expected. Less surprising was their uniformly poor performance.

A further observation was that the proportion of illogical 'entries' increased in the most recent cohorts, with a corresponding decrease in logical ones. The number of funded applicants had been decreasing significantly, so that selection was perhaps less rigorous than before - the scenario reported by Kinnell (1990, pp.21-28).

Motivation

In very few cases was 'entry' part of a rational national or regional human resource management plan, as recommended by WHO (1976, pp.1-31). Instead, the most common pattern was that of a not very thoroughly considered local arrangement. A

surprising finding was that in 46% of cases the primary motivation came from the candidates themselves, rather than from management. Although candidates' most common primary motivation was to acquire necessary additional skills (Nordhaug, 1989), other motives figured as well - the need to advance their careers (Van den Bor and Shute, 1991), the desire to expand and develop themselves (Nordhaug, 1989), or simply to go overseas. Employers were also largely motivated by the need to improve the service, but again other more political motives entered - motivating individuals, rewarding them (Godlee, 1995), or taking account of their length of service (McEnrue, 1989). In a full 36% of cases the primary motivation for 'entry' deviated from the expected rational path, for one or both of the parties.

Information

This theme derives its importance from the logical connection between inadequate information, and incorrect decisions about 'entry'. The principal finding is that a quarter of the ex-students claimed never to have received the information pack that was routinely sent to candidates upon their acceptance. The most likely reason is that the documents got mislaid in the rush of the last few days before leaving for Liverpool. An additional 33% claimed to have received the documentation, but still to have been in the dark when they arrived - a surprising state of affairs, since the documentation was comprehensive, in contrast to the case described by Godlee (1995). The most likely reason is that candidates spent too little time going through the documentation - some even admitted this. On the other hand there were cases where communication was effective and supported by briefing - especially by other ex-students (Lewins, 1990, pp.82-106) and visiting staff from the Liverpool School. There is no doubt that failures in communicating this information, for whatever reason, resulted in illogical 'entries'.

It was also found that in 45% of cases the candidates only knew about the TPHC course as an option for them (often selected without their input, even if they had done the initial motivation). A number of candidates would have found a different course more suited to their work, but the option was not open to them under these circumstances.

A further manifestation of the failure of the 'information' process is the fact that a number of candidates arrived on the course with relatively high levels of knowledge and skill. It was found that 48% of the cases with proven output fell into the 'medium' and 'medium-high' categories of pre-course quality. Since these can at best have a low 'added quality', their ability to achieve a substantial output is limited at the outset. It should be noted that this proportion can be used as an indicator of the effectiveness of the 'entry' process in screening out candidates who already have considerable knowledge and skill. The better the screening process, the higher the proportion of cases towards the left hand side of Table 6.3 (columns *'low'* and *'low-medium'*).

Organisation

This theme has already been shown to have an effect, in that a disorderly 'entry' process was the probable reason for information about the course to go astray. In fact 23% of 'entries' were found to be to some degree disorderly: a rushed process, many

bureaucratic obstacles, late selection to 'fill up' places (Lewins, 1990, pp.82-100). Only the latter is definitely associated with poor output however.

6.4.2 Implications for the future

In order to minimise the wastage caused by illogical 'entry', the findings point to a number of remedial steps. These are suggested in Table 6.5, which should be considered together with Table 6.6.

Table 6.5 Proposed measures to increase proportion of logical 'entries'

factor affecting logical 'entry'	proposed remedial measures
• some groups appear prone to illogical and 'hopeful' entry: doctors, expatriates, employees of NGO/ bilateral projects • late applications and selection tend to lead to illogical 'entry'	• special attention to and intensified communication with these groups during 'entry'
• more than half of candidates arrive at the course still incompletely informed about its nature • stakeholders have little information about the range of courses available, so the 'wrong' course is selected	• careful, personalised distribution of relevant information to all stakeholders • obtaining feedback from all stakeholders about information received • preparation and distribution of information about courses dealing with related subject areas
• a high proportion of relatively irrational motives for 'entry' • motives and expectations of the different stakeholders do not coincide • some candidates have already mastered the course material before arrival	• all of these factors need to be dealt with by means of careful pre-course communication and negotiation; this is discussed in detail in Table 6.6

Regarding the distribution of information about related courses, this was already being done by some donor groups. It is difficult to see 'rival' educational institutions promoting each others' courses; an alternative would be for a major funder (such as the British Council) to draw up a user-friendly directory of available courses, to which interested training groups may send their information, and which is updated yearly.

6.5 Factors affecting output

In the previous section it became clear that the logic of 'entry' affects subsequent output. Such logic is also an indicator of the ability of the ex-students' performance systems to support them as they try to implement what they have learnt. Turning to the findings in Chapter 5, it is equally clear that output is profoundly affected by variables within Mager and Pipe's (1990) 'performance system'. Once these variables have been identified, it should be possible to enhance output by adapting those that are amenable to being changed, and at least to take into account those that are not. At the same time the extreme variability of the study population injects a note of caution: in Cronbach's (1975) words, 'When we give proper weight to local conditions, any generalization is a working hypothesis, not a conclusion.'

6.5.1 Factors related to the work situation

An important factor operating in the work situation was found to be *authority*. Being in a position of sufficient seniority was associated with producing an output, although subordinates could be very resistant. On the other hand relatively junior ex-students without authority were at a disadvantage - they were seen as a threat, and at times were not given the scope to implement what they had learnt; consultants were even brought in to do what they were perfectly capable of doing. This echoes almost exactly the observation of Loucks-Horsley *et al.* (1987, p.101) that the ability of teachers to implement innovative practices successfully is crucially dependent on a leadership which promotes those practices as important, and supports teachers working on them.

Closely allied to this theme is that of *support*. Support was a contributory factor in three quarters of cases with real output. The support could be from individuals (superiors or peers) or from teams - superiors, peers, other ex-students of the TPHC course. Its role is amply confirmed in the literature. Kanter (1985, pp.221-228) points to the critical need for coalitions to be formed; Wildman and Niles (1987) cite collaboration as an important factor in promoting change; McIntyre (1992) reports the need for warm, ongoing, emotional support during innovation; Raven (1992) mentions the role of recognition; Carefoot (1987, pp.24-26) describes the need for a supportive human resources policy in organisations. The converse is equally clear from the findings - many of those who achieved unchanged or zero outputs received little or no support. In some of those cases apathy, jealousy and hostility were also found.

A further factor in the work situation was the availability of *resources*. Generally this was a less significant factor; it was found that shortages only held back performance a little. Those who achieved real outputs generally had enough for their needs, or could at least cope with what they had. Very low salaries were however a problem, necessitating second jobs (which absorb time) and causing frustration. Raven (1990) cites shortage of resources as a barrier to innovation; Carefoot (1987, pp.24-26) mentions the inhibiting effect of low salaries; Steyn *et al.* (1991, p.41) cite lack of transport, and Amin *et al.* (1988) lack of suitable facilities and instruments, as inhibiting factors. Shortage of *time* (as a resource) was found to affect all categories, especially those who achieved real output. This was associated with a shortage of staff and unrealistic demands of national

curricula, and led to an inability to perform teaching activities to the required standard. Whitehouse (1997) reports innovation being held back through lack of time; Wildman and Niles (1987) describe a lack of time holding back personal learning, as well as the preparation and execution of new activities.

In summary: output suffered when junior ex-students attempting to innovate were not supported by their superiors, or even resisted by them. Ex-students in leadership positions found it easier to innovate. Shortage of time (too little staff) and resources (especially low salaries) did affect output, but only to a limited extent.

6.5.2 Factors related to the nature of the job

Not surprisingly there was found to be a direct correlation between output achieved, and extent of *opportunities* the job offered the ex-student to be engaged in teaching. Thus output was affected by job changes - sometimes the opportunities for output increased, and sometimes they diminished (for example by being promoted into, or a personal decision to move on to, a job with fewer opportunities for training). When candidates are sent on a course, and then find themselves in jobs with few opportunities to use what they have learnt, this represents a failure of planning - senders, donors, employers and candidates are clearly not communicating well. Carefoot (1987, pp.24-26) notes that innovation suffers if roles are not clearly defined; Olson (1988, pp.35-50) found that teachers' use of innovations is affected by the stage of their careers in which they find themselves.

Opportunities as described above refer principally to the time made available for activity in which the learning from the TPHC course can be applied. A further dimension is *openness* - the degree to which the activities which constitute the job are open to being changed. Cases with real output were very largely found to be in jobs highly accepting of innovation - sometimes this situation of openness had been brought about by the exertions of a previous ex-student, so that there was a cumulative effect. On the other hand the only instances of resistance to innovation was found in cases with zero output, or unchanged output. At times the organisational culture was found to be rigid, even if it was already applying TPHC principles. On other occasions task allocation limited what could be applied, with 'junior' people not considered able to do anything new. On the other hand unplanned gaps sometimes appeared, allowing innovations. According to Raven (1992) it is essential that organisations should value innovation, rather than be threatened by it (Hammond and Mazibuko, 1981). Problems are bound to arise when the structures which exist are at odds with the orientation of the training (Cassels and Janovsky, 1991). More specifically, Harris and Bell (1986, p.13) point to potential conflict when a traditional, teacher-centred instructional system is challenged by a student-centred ethos, which aims for the development of a reflective practitioner (Schön, 1987, pp.8-17).

In summary: output was enhanced when there were many opportunities for course-related activity in the ex-student's job, and where there was openness to changes in those activities, in accordance with the standards set by the TPHC course. Conversely output suffered when there few opportunities and change was discouraged.

6.5.3 External factors

The data clearly showed that a category of so-called external factors was also affecting output. These had to do with international and national policy and regulations; the role of funding agencies; and cultural norms. Their positive effect was limited to the provision of sponsorship for the training, and of resources for subsequent work - although situations where there was a logical underlying human resource management system could be expected to pass unnoticed. In these cases the existence of a clear policy at central level could be helpful for acceptance, moral support, and resource allocation (Steyn *et al.*, 1991, pp.3-5,34). Otherwise the effect of this group of factors was found to be largely negative. Deficient national and local human resource management led to situations where the TPHC related programmes in which ex-students were working were cancelled while they were still in Liverpool. Rigid professional council regulations governing training made innovation very difficult (but in one case facilitated it, when the rules changed). Donors caused problems when they insisted that programmes should adopt their priorities (see also Schmidt, 1991); when they changed these priorities without consultation; when they withdrew their support. International and national economic realities, leading to subsistence level salaries, affected morale and motivation. Strongly hierarchical local cultures inhibited the development of innovations such as student-centred teaching.

Finally, family matters and personal health status were found to have a negative effect on output in a few cases. Injuries following motor vehicle accidents interrupted output temporarily. Family considerations led to career decisions which effectively precluded the utilisation of TPHC knowledge and concepts, and family responsibilities cut down on time available for TPHC related work - examples of Maclure's (1993) finding that all dimensions of teachers' lives are knit together and find expression in their values and actions.

In summary: factors outside the job and the work situation also influenced output. The policies (or lack of them) of health services and funding bodies led to decisions about deployment which did not take account of ex-students' new skills. Rigid rules governing health worker training inhibited innovation. Structural adjustment policies decreased salaries and resources to critical levels. Family considerations at times took precedence over improvement of job performance.

6.5.4 Personal factors

A number of themes emerged which relate to the personal state of ex-students: self-efficacy, background, morale, motivation, and ability to function as an agent-of-change. These themes are related to each other, and particularly also to the work situation:

- High self-efficacy ('self-concepts of efficacy') leads to assured, opportune action only in circumstances where personal judgement of a successful outcome is high as well (Bandura, 1982) - where the job allows it, and the work circumstances support it.
- A background of experience as a trainer is likely to increase mastery of course material, and subsequent self-efficacy.

- Morale is likely to be higher where the organisation is perceived to be supportive, is offering opportunities to succeed, and provides sufficient resources.
- Motivation will be higher in situations where personal needs are felt to be met, where effort is felt to be likely to lead to desired results, where there is a psychological contract of support and appreciation.
- Effective action as an agent-of-change depends on high self-efficacy, motivation and morale, as well as supportive circumstances at work.

A clear overall picture emerges. A situation leading to real output is one where the nature of the job and the work circumstances support states of mind which promote exertion and production, following on an educational experience of good quality (Peters *et al.*, 1980). In this section the observed manifestations of these personal states is examined, in relation to output achieved. Self-efficacy was found to play a role in over half of the cases, and the others in about a third of the cases each.

Real output was found to be associated with higher *self-efficacy*, and low self-efficacy with output that was zero or remained unchanged. Greater self-efficacy was shown in the study to be coupled with greater confidence in one's ability to achieve. The 'assured, opportune action' that resulted took the form of correcting wrong practices; coming up with new ideas; questioning established orthodoxy; and a missionary zeal for the TPHC paradigm. Low self-efficacy was found to be a factor where ex-students had not yet achieved sufficient mastery of the course material, or had a dislike of teaching - resulting in Bandura's (1982) self-devaluation, or resignation and apathy.

The ex-students' *background* presented itself as a theme. As is to be expected, real and unchanged outputs were associated with past experience that made learning easier - Morrison and Brantner (1992) cite 'immediate similar previous experience' as a factor promoting successful in-service training. However that same background could limit output, if the ex-student's level of TPHC skill was already high at 'entry', leaving little room for improvement. Zero outputs on the other hand were associated with a general educational background that was not developed enough to absorb new concepts, and with other powerful training courses that promoted different teaching paradigms (the traditional one) or different spheres of activity (e.g. health education). Such courses were found to distract ex-students, particularly if they took place shortly after the TPHC course.

Morale came to the fore largely in a negative sense, related to zero or unchanged outputs. In some of these cases ex-students left TPHC related work situations because they felt there was little professional future in them, or were frustrated in them, or were offered an opportunity to advance professionally. They experienced lack of recognition; unpleasant work relationships; a lack of resources; a lack of job security; feelings of being left behind/ sidelined; feelings of being unable to expand/ improve. In other situations ex-students felt unhappy in their present situation, but were grimly holding out. It is clear that morale in these circumstances is greatly dependent on work circumstances (Evans, 1992a).

Motivation was found to play a role that was equally positive and negative, related to real and zero outputs respectively. Handy's (1976, pp.31-47) 'E' was elicited by the need for meaningful work (in one case almost for a validation of one's existence [65]); particular TPHC ideas that struck a chord with ex-students; the need for personal advancement; and a feeling of moral responsibility to repay the investment of the overseas course - all examples of changes which were felt needs of the ex-students concerned (Loucks-Horsley *et al.*, 1987, pp.99-100). In cases with real outputs the ex-students had the perception that their work situation would allow their effort to produce the desired results and rewards, and found that this was in fact so - they felt that 'management was listening', thus fulfilling the psychological contract between themselves and management to their satisfaction (Revans, 1969). In other cases they tried, were blocked, and stopped trying when the 'halo effect' had worn off; in yet others the ex-students' primary needs were not related to innovation, so that additional effort to produce results conformable to the TPHC ethos was not even considered.

It should be noted that the manifestations of 'motivation' uncovered in the study could serve as exemplars of actual behaviours, in the assessment of the affective state of 'motivation' (Dockrell, 1988, pp.127-142)in circumstances similar to those of the present study. The specific motivation of candidates could be assessed before 'entry' (an indicator of suitability for 'entry'); upon returning (an indicator of the benefit of the course); and after some time back at work (an indicator of the support given by the performance system).

All the previously mentioned personal states came together to inform the way in which ex-students took upon themselves the role of *agent-of-change*. They had to do so to negotiate space for themselves to change their practice; to elicit the support of others for activities like curriculum development which require a team effort, and wider consensus; and to influence others to change methods that the ex-students now perceived to be sub-optimal. Since the role of an agent-of-change was seriously dealt with in only two or three of the courses, the majority undertook it intuitively - there was in fact not a single example of an ex-student systematically tackling this role, based on a knowledge of the roles, processes and strategies involved. Accordingly it was found that an accidental but successful agent-of-change role contributed to a number of cases with real output, whereas attempts which failed or backfired were associated with zero outputs. The 'catalyst' role was principally used, and also the 'solution giver' role (Havelock, 1973, pp.7-9).

In summary, the personal factors and roles discussed in this section are descriptions of states of mind which are principally the result of the nature of the job and work circumstances; also of previous experience; and in a few cases of inspiration imparted by the course. The necessary role of agent-of-change was intuitively adopted, without a clear understanding of its nature and possibilities.

6.5.5 Implications for the future

The factors influencing output having been identified, their meaning for future practice with respect to international courses like TPHC needs to be established.

In an ideal situation the processes around 'entry' and return to the workplace could be described as follows:

- The application forms part of a logical plan for service development in the organisation concerned, to which all parties (managers, candidates, funders) subscribe.
- The measures taken to inform all parties about the true nature of the course, and the nature of personnel who are likely to benefit by it, will succeed in avoiding misunderstandings.
- The scrutiny of applications undertaken by the course organisers will pick up candidates to whom the course is really not suited.
- On her/ his return from the course each applicant will slot into a position where s/he is expected to apply what s/he has learnt for the benefit of the organisation, while being thoroughly supported in this endeavour.

It appears to have been the unspoken and perhaps subconscious assumption of the TPHC course organisers that this ideal system was largely in operation, or that deviance from it was the responsibility of the sending organisation (a reasonable position to hold). In any event no particular steps were taken which might indicate an awareness of deviations from this ideal, other than the two or three years when the role of the agent-of-change was discussed with students.

Against this must be set the 25% of ex-students with proven zero outputs, and those who achieved their outputs against considerable odds. There are only two cases where ex-students may have gained too little mastery of course material to be able to use the opportunities presented to them subsequently [42, 58]; in all the other cases it was elements in their performance systems which held the ex-students back. The study has clarified these elements, as well as those leading to the achievement of real outputs. It now remains to determine how these factors may be manipulated to improve both the quantity and quality of output. This is attempted in Table 6.6 below. In this table each factor is given a weight, based on the 'quantitative findings' tables and 'qualitative findings' in each section of Chapter 5.

These measures must be considered together with those recommended to optimise the 'entry' process (Table 6.5). The two have much in common - not surprisingly, since the logic of 'entry' was shown to be an indicator of the ex-students' performance system. It is clear that almost all the negative effects of these factors can be countered to a greater or lesser degree, by instituting measures that are easy to understand:

- On the one hand these measures deal with improved communication, which is made possible by the increasing availability of facsimile and e-mail, and is relatively simple.
- On the other hand they insist on a more sophisticated degree of human resource management from client organisations, which is much less easy to achieve. In addition insistence on such measures as a pre-condition for training (and its funding) may be seen to be patronising. There can be no doubt however that innovations of whatever nature can only survive if they enjoy institutional bases of support (Sherraden and Wallace, 1992).

Table 6.6 Proposed measures to improve output following on training

factor affecting output	weight	proposed remedial measures
• ex-students seen as a nuisance/ threat by superiors, colleagues, subordinates	++	all of these factors need to be dealt with by means of careful pre-course communication and negotiation, covering the following areas: • establishing the organisation's particular need • establishing how the need fits into stated policy • explaining exactly what the course has to offer • deciding jointly whether the course will meet the need • establishing to what extent innovation is possible • selecting the most suitable person to be trained • scrutinising that person's background and past training • considering elective modules that will meet specific needs • agreeing on the role the ex-student will play on returning • agreeing on the likely duration of that role, and its future • agreeing on the support the ex-student will receive • agreeing on the resources and time the ex-student will receive
• the new skills of ex-students not utilised in innovation	++	
• ex-students lack support from superiors /colleagues in their efforts to innovate	++	
• low morale from lack of recognition, no job security, feeling of being sidelined	++	
• lack of general and human resource management policy at different levels	++	
• lack of well-defined opportunities for innovation in the job	+++	
• rigid job and/ or organisation, closed to innovation by ex-student	+++	
• rigid bureaucratic control of health worker training	+	
• donor-led programmes fail to take account of local personal investments	+	
• shortage of resources and time for innovative activities	++	
• psychological contract with employer unsatisfactory, motivation undercut	++	
• other training conflicts with what the TPHC course stands for	+	
• family matters lead to decisions which preclude TPHC related activity	+	• negotiate with each candidate a commitment to serve
• candidates' background limits their ability to absorb new concepts	+	• adhering to admission criteria; a careful pre-admission test
• ex-student unaware of the need to be a skilled, conscious agent-of-change	+	• inclusion of a highly practical module on being a change agent

The logic of this research and its findings points to the need to implement these particular measures, if output from training is to be improved. Objections may be dealt with by discussing the rationale of the new, more cumbersome but more logical process. The question about whether these recommendations may be extrapolated to other international courses can now be answered: it depends on the degree to which the factors in Tables 6.5 and 6.6 are operating in each case. Since the factors appear to be of a generic nature, it means that the proposed measures should be relevant to a variety of courses - in which case Tables 6.5 and 6.6 can be used as checklists to monitor the improved process.

Sooner or later any training must start to be seen to be only a part of an explicit human resource management policy (Martínez and Martineau, 1996, pp.25-35), which again is a subdivision of an overall plan for the organisation. Relevant policies, political commitment, educational capacity and conditions of service should form a seamless whole (WHO, 1990, p.13). It is certainly asking too much to expect that each organisation in the countries concerned will have such a functioning policy in place, but the measures and negotiations outlined above will at least ensure a more logical process, providing a greater chance of solid output and ensuring better value for money. They may even prove to be a stimulus for starting serious work on necessary policy.

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Appendices

Appendix 1 Data collection instruments

Overall plan

NOTE:

- first start with ex-students, then with bosses, colleagues etc.
- greet boss first of course - make appointment to come back to interview
- I do it this way so the ex-students don't feel I'm sassing them out with the bosses first

research areas	data collection instruments
1. introduction: what all this is about 1a personal details; history before TPHC	1. ex-students; their students, bosses, colleagues: DISCUSSION 1a alumni: INTERVIEW
2. 'entry': finding out about why they came to do TPHC	2. head office, ex-students, bosses, colleagues: INTERVIEW
3. experience of TPHC	3. ex-students, bosses, colleagues, tutors: INTERVIEW
4. employment history after TPHC - for each significant job: * how they tried to innovate * their level of skills * resources * their wider influence 4a written documents produced 4b present job: teaching	4. ex-students, bosses, colleagues, students: INTERVIEW 4a documents: SCRUTINY 4b teaching practice: OBSERVATION
5. general/ non-specific outcomes of TPHC 5a oomph/ motivation	5. ex-students, bosses, colleagues, students: INTERVIEW 5a ex-students, bosses, colleagues: DISCUSSION
6. future communication and data provision	6. ex-students, bosses: QUESTIONNAIRE ex-students: PHOTOGRAPH

1. Introductory information for all interviews

You will be wondering why I've come all this way to follow up past students of the 'Teaching Primary Health Care' course. Briefly, these are the reasons:

- The course has been running for 14 years now. The organisers would like to know how effective it has been, and whether it should continue in its present format.

- If it has worked, they would like to know whether there is a need for such courses in some situations in developing countries, and in that case, whether there is any need fro a cooperative programme with Liverpool in the countries concerned.

- They also want to know more clearly what happens to people who have done courses like TPHC, when they go back to their countries and start trying to apply what they have learnt.

I'd like to make very clear that I am not here to judge the ex-students or the organisations they work for. I simply want to gain a better understanding of what has happened to people who have been through the TPHC course.

I'd like to share with you my own fears and uncertainties. Firstly I don't know the people I'm coming so far to meet; I don't know their countries; I don't know their circumstances. I have thought a lot, and tried as well as I can to prepare myself for these interviews; but will I succeed in really understanding what has happened? And will I be able to describe it in such a way that it will really be useful for the future? Will I miss out some important information (I can't come back again to collect it).

So really I need your help, as a collaborator in the project. I want to try to understand what really has happened. So:

- If you think I have left out anything really important, or if you have suggestions for further things to be explored, please tell me.
- Please be frank. If you have criticisms of any part of TPHC, please tell me. I need to understand the mistakes. And if you have had problems in trying to implement TPHC, or if you feel you have perhaps made some mistakes, please tell me - in that way we can try to adjust the course so future students can learn from your experiences.

Any information you give me will be strictly confidential. By this I mean that it will be reported in such a way that it cannot be traced back to you. That is standard procedure, and I have to stick to that.

Before leaving you I will try go through all the information you have given with you, so you can check if you think it is correct.

THANK YOU!

1a. Personal facts: interview schedule for ex-student

[NOTE: In every case just ask the question. Then if a point not covered, probe for it.]

I'd like to find out more about you; that will help me understand why TPHC affected you and your work in the way it did. Let's check now.

1a.1 Your full name:

1a.2 Where were you born? (probe for circumstances) - your date of birth?

1a.3 Tell me a bit about your family

home environment

1a.4 Your schooling:

* primary: where, and what sort of school?
* secondary: where, and what sort of school? how many years? what subjects did you take for your final year?

breadth and depth of general education

1a.5 Your professional training:

* initial training:
  - where, and what sort of school?
  - how many years, and what qualification did you end up with?
  - what methods were used to train/ assess you?
* subsequent training as a professional (NOTE: also training done after TPHC):
  - where, and what sort of school?
  - how many years, and what qualifications did you end up with?
  - what methods were used to train/ assess you?

philosophy of education

* if any other TOT courses: what approach did they use in that course?
  - ask for the 4 elements: curriculum development; lesson planning; teaching skills; assessment

influence of other TOT

1a.6 Your experience:

A little later we will talk about your work experience since TPHC. Now I'd like to ask you about your work before doing TPHC.

* For each job:
  - name of organisation, post, how long employed there
  - activities on the job? (teaching and other)

relevant experience

1a.7 If you were teaching before TPHC, I'd like to learn a bit more about your approach to teaching at that time:

* Describe how you went about teaching: (how you decided what to teach; prepared for teaching; taught; assessed)
* Where did you get your ideas about teaching from?
  - formally or informally?
  - was there anyone who strongly influenced the way you taught?

teaching philosophy

2. Reasons for coming on TPHC - interview schedule for ex-student

2.1 Who made the decision that you should come?
* where are they now?
* their position
* was it well-considered, or sort of accidental?

2.2 Why did they choose TPHC, and not another course?
* what was their need - why did they feel they needed more input?
* how did they hear about it?
* did all of you have a good understanding of what TPHC had to offer?

2.3 Why do you think they chose you specifically?

2.4 What were your feelings when you heard you had been chosen? (for/ against)

+2. Reasons for coming on TPHC - interview schedule for bosses and peers

NOTE:
- If possible speak to the person who made the decision.
- To save time, do a focus group discussion.

+2.1 Who made the decision that X should come?
* where are they now?
* their position
* was it well-considered, or sort of accidental?

+2.2 Why did they choose TPHC, and not another course?
* what was their need - why did they feel they needed more input?
* how did they hear about it?
* did all of them have a good understanding of what TPHC had to offer?

+2.3 Why do you think they chose X specifically?

3. Experiences of TPHC in Liverpool - interview with ex-student

NOTE:
- I stay non-committal, to see what they really remember - they will be trying to please me/ the TPHC staff.
- If they learnt things but have forgotten that they learnt them at TPHC, it will come out once they describe what they have done in their work.

3.1 What year did you do the course?

3.2 Who were your teachers, your fellow students? your personal tutor?
to get them in a thoughtful frame of mind

3.3 Tell me what you can remember about the course - the good and the bad (remember: TPHC staff want to know the bad as well, very much)

* what was the quality of teaching like do you think?
* was student welfare well catered for?
* what event made a deep impression on you? (perhaps more than one)
* did it change the way you see 'teaching'? how?
* did you feel you also grew a bit as a person? in what way?
* disappointments? - things that didn't work so well? - details

3.4 Do you remember the portfolio you put together? what colour was yours?

* do you still have it? can you remember anything that was in it?
* have you ever used it since you got back from TPHC? what for? (as specific as possible)

3.5 Do you remember the project you undertook? what was it about?

* do you still have it?
* did you ever use it? what for? (as specific as possible)

3.6 Did the tutors recommend a book to you? Which one(s)? Did you buy it?

* have you used it in your work? which part? what for?

3.7 Looking back, did the course fulfil your expectations? How?

* Have you ever thought: 'Oh, I wish I'd learnt some more about <u>that</u> on the course!'? What was 'THAT'?
* Looking back, are the some things which you think could have been left out, which haven't been useful to you? Which things?

+3. Experiences of TPHC in Liverpool - interview with boss/ colleagues

NOTE:

- I stay non-committal, to see what they really remember - they will be trying to please me/ the TPHC staff.
- I can speak to any present colleagues.
- Can use focus group discussion but be careful.

+3.1 X did this course in 19xx. Does X ever speak about it? What does (s)he say?

* the good
* the not-so-good
* any specific event or person mentioned? details?

+3.2 Do you ever see her/ him use the material (s)he brought back from Liverpool? how?

+3.3 (only ask this if present colleagues/ boss were there at time of TPHC) When X came back and told you about the course, did it meet your expectations?

* what were you pleased about, and what disappointed?

++3. Experiences of Liverpool - interview with tutors

Why do I want to discuss the ex-students with the tutors? It's on the principle of getting a better understanding of the person, so a better interpretation of what they have told me - making the story more complete..

I don't know if it is going to provide anything useful. I think it will, because tutors have on several occasions made stray comments which seemed to be relevant. Ex-students have also made comments about the tutors!.

A formal questionnaire is likely to be useful; memory is likely to be patchy. SO again, a semi-structured interview. It has to be simple because there are 87 of them.

What information are tutors able to supply about the ex-students? Everything they can remember about that ex-student on the course: relationship with other students; relationship with tutors; how well they performed in class; anything about their project; anything out of the ordinary that happened to them while they were here. They will have more information about their own tutees obviously. And I have to try to jolt their memories.

Questions

First chat a bit in general about what we're doing. Make clear it's fine if s/he can't remember anything about a particular ex-student. S/he can also back-track, if something suddenly pops up in his/her mind.

- Let's look at these names from the 19.. course. Here is the class photo. Can you remember any of them? Which ones? (I jot the names down).

Let's start with X.

++3.1 What kind of a person was s/he?

++3.2 Any specific problems, like language/ health/ family problems back home?

++3.3 Who was his/her tutor? Any problems with the tutors? How well did s/he do on the course? Was s/he hard-working? Any academic problems?

++3.4 Do you know anything about his/her project?

++3.5 Where did X stay? Who were his/her friends? How well did s/he get on with the other students in the class? Any instances of conflict?

++3.6 Can you remember anything else that happened to him/her on the course? anything strange, or out of the ordinary?

++3.7 Do you know anything about what happened to him/her after the course?

4. Employment history after TPHC - interview schedule for ex-students

NOTE:

- each major job since qualification is investigated equally
- for EACH JOB the approach is as follows:
  - * particulars of the job, and the ex-student's position in it
  - * how the ex-student went about trying to implement or improve a training programme; how (s)he tried to innovate
  - * resources and support
  - * wider influence/ effect
  - * finally 4a (scrutinising documents) and 4b (observing teaching)

4.1 Name of the institution and the employer; its location

government/ NGO

- * what was the function of the organisation supposed to be?
- * how many colleagues? what were they like?
  - - what was their teaching practice like? any TOT training?
- * can I find any of these people to speak to - names and addresses? not only the supporters but also others who may have resisted a bit

for triangulation

4.2 Your position in the organisation:

- * title/ position
- * responsibilities: what exactly were they?
  - - was teaching one of them? who were you supposed to teach?

scope for innovation

  - - supervising/ planning teaching?
  - - for how much of your time?

4.3 Going about innovating/ implementing

- * was this the job you were expecting to do?
- * were you put into an existing, well-defined job, taking the place of someone else - or were you supposed to start up something new?

expectations of innovation

- * when you arrived did you have a definite idea of specific things you wanted to do, or just a general one of improving the programme?

4.4 Now I'd like to how you went about doing this new job - from start to finish - only the part related to teaching though.

[NOTE: for 'teacher-practitioners' I note what they did in the teaching situation; for 'teacher-managers what they planned for the teaching situation]

- * <u>training for the job</u> - how did you decide what to teach?
  - - surveys or some other effort at finding training needs
  - - doing task analysis
  - - lesson objectives related to job; an evident understanding that the learning is for that purpose
- * <u>lesson plans</u> - how did you prepare for teaching?
  - - systematic lesson planning process (format, logical sequence)
  - - objectives stated for lessons
  - - methods linked to domain of the objectives

* <u>good teaching technique</u> - describe the kinds of things you did in your teaching
  - more student involvement/ interaction (different group discussions; seminars; workshops; role plays etc.)
  - more and better visuals
  - well organised practicals
  - use of checklists
  - decision making, communication, attitudes
* <u>assessment</u> - how were you assessing your students?
  - number of different methods used; briefly described; how frequently
  - with proper rationale (i.e. linked to domains)
  - evidence of considering reliability and validity
* <u>course document/ plan</u> - did you ever draw up a whole course plan, or a part of one?
  - structured and logical
  - enough detail; complete

4.5 General points about these accomplishments:

* do you feel you succeeded/ are succeeding in implementing what you learnt at TPHC? (if not clear already)
  - what are your reasons?
* are there any particular failures you remember - things you tried that didn't work?
  - why did they fail?
* when were you the prime mover, and when part of a team deciding together, and when simply carrying out instructions?
* what was the time sequence in which you carried out these changes/ activities? (if not clear already)
* where did you get these ideas from?

4.6 Resources of the organisation

* what helped you in your efforts, and what hindered? why?
  - space - was it enough, the right shape? furniture?
  - time: enough staff, enough support from others? too busy with routine to be able to plan and innovate?
  - salaries - do you have to moonlight?
  - equipment? OHP, photocopier etc. - enough?
  - books and other written/ printed resource materials?
  - stationery, paper
* there is never completely enough, ever; so were they: nearly enough; too short but could cope; or so scarce that they caused you to fail?
* do you perhaps feel that the resources were there, but they weren't made available to you?
* did you make any plans to overcome the shortages? improvisation?

personality: oomph

* how much support did you get from boss and colleagues?

4.7 Wider influence in the organisation and further afield (related only to the 5 fields of JD/TA; lesson planning; technique; assessment; course plans)

* your colleagues: do you feel you influenced them at all?
  - specific examples of what they learned, and how (example/ informally; discussion; workshops); evidence
* your superiors: do you feel you influenced them at all?
  - specific examples of what they learned, and how; evidence
* similarly for the whole organisation
  - (if low position) what specific influence upward? how? how much? evidence?
    (if high position) what influence? exerted how? policy documents, TOT courses?
* more widely: country or even internationally - details
* overall: did you try to have this wider influence, or did you just do your job and then it happened?
* any of these passing it on further?

+4. Employment history after TPHC - interview schedule for bosses/ colleagues

NOTE:
Obviously only for present job. The approach is as follows:

- particulars of the job, and the respondents' position in it
- how the ex-student went about trying to implement or improve a training programme; how (s)he tried to innovate
- resources and support
- wider influence/ effect

+4.1 Name of the institution and the employer; its location

govemment/ NGO

* what was the function of the organisation supposed to be?
* any TOT training? their teaching philosophy?
* ex-student's responsibilities: what exactly are they?
  - a well-defined job, or a bit vague?
  - was teaching one of them? who was (s)he supposed to teach?

scope for innovation

  - supervising/ planning teaching?
  - for how much of his/ her time?

+4.2 Now I'd like to tell me what (s)he has been doing: everything related to teaching - all of it (doing it and planning it)

* <u>training for the job</u> - anything related to curriculum development/ deciding what to teach?
  - surveys or some other effort at finding training needs
  - doing task analysis
  - lesson objectives related to job; an evident understanding that the learning is for that purpose

* lesson plans - how does (s)he prepare for teaching?
  - a systematic lesson planning process (format, logical sequence)
  - objectives stated for lessons
  - methods linked to domain of the objectives

* good teaching technique - describe the kinds of things (s)he does when teaching, the way (s)he teaches
  - more student involvement/ interaction (different group discussions; seminars; workshops; role plays etc.)
  - more and better visuals
  - well organised practicals
  - use of checklists
  - decision making, communication, attitudes
* assessment - how does (s)he assess students?
  - number of different methods used; briefly described; how frequently
  - with proper rationale (i.e. linked to domains)
  - evidence of considering reliability and validity
* course document/ plan - did (s)he ever draw up a whole course plan, or a part of one?
  - structured and logical
  - enough detail; complete

+4.3 General points about these accomplishments:
* when was (s)he the prime mover, and when part of a team deciding together, and when simply carrying out instructions?
* what was the time sequence in which you carried out these changes/ activities? (if not clear already)
* where did your organisation get these ideas from?

+4.4 Resources of the organisation
* do you feel your teaching resources are adequate to do a good job? details please
  - space - is it enough, the right shape? furniture?
  - time: enough staff? too busy with routine to be able to plan and innovate?
  - equipment? OHP, photocopier etc. - enough?
  - books and other written/ printed resource materials?
  - stationery, paper
* there is never completely enough, ever; so are they: nearly enough; too short but can cope; or so scarce that they cause you to fail?
* does X in particular have enough for her/ his particular job?
* how well do you feel you have supported and are supporting him/ her as (s)he tries to apply what (s)he learnt?
  - active support, or just letting him/ her get on with it?

+4.5 Wider influence in the organisation and further afield (related only to the 5 fields of JD/TA; lesson planning; technique; assessment; course plans)

* colleagues and bosses: have you learnt anything from X?
  - specific examples of what you learned, and how (example/ informally; discussion; workshops); evidence
  - have you in turn passed this on to anyone?
* any evidence that these ideas and practices may have gone further?
  - specific examples

+4.6 Finally: do you feel the teaching work of X has been of benefit to your organisation?

* specific examples

I must relate this to TPHC

++4. Employment history after TPHC - interview schedule for Head Office staff

* Quite a number of trainers from your country have done the TPHC course. Are you aware of any benefit this has brought to your health service overall?
  * specific examples
  * at all levels: local; regional; even national

4a. Written evidence - scrutiny

Note handed to ex-student on arrival

As part of the follow-up I would like to look at the written materials you have made since returning from TPHC:

- Of course you will not have kept everything; but anything you have will be useful.
- You may have worked together with someone else to produce some of the documents. I would like to see those as well.
- I would be grateful to see examples of for as many as possible of the following:
  1.1 job descriptions (and needs analysis research/ reports)
  1.2 task lists
  1.3 task analysis
  1.4 lesson plans
  1.5 visuals made (not necessarily used)
  1.6 written training materials produced
  1.7 assessment plans, policies, instruments
  1.8 diaries of work; work reports
  1.9 course plans
  1.10 evaluations of their work, of other training programmes etc.
- Thank you!

Assessment of each document

- Tell me about each document now. What part did you play in making it?
  * alone; prime mover of group; one of many in group

- Then for each document I do the following:
  * describe it briefly, noting good and bad points
  * look for signs of reflectiveness:
    - learning from mistakes; alterations and improvements; any sort of evaluation etc.
  * look for signs of oomph/ motivation:
    - trying something ambitious or very innovative or risky
  * give it a mark on a rating of 4 points:
    0 = didactic, traditional, teacher centred health worker training
    1 = some traces of 'TPHC thought' evident
    2 = approaching TPHC standard, but clear room for improvement
    3 = 'TPHC style', student centred training

4b. Teaching practice - observation

NOTE:
- I must be aware that this is likely to be a bit artificial - a special show.
- On the other hand they will be nervous, so not as good as usual.
- Aim: to triangulate observation with interview data and written documents.

4b.1 Overall: write a brief account of what's happening, step by step
  * draw inferences about rational planning and execution of the lesson: clear objectives, suitable teaching methods, objectives achieved

4b.2 Observe lesson technique:
  * more student interaction/ involvement; more learner centredness (the way the class is structured; group discussion; group work; role play; lot of questions/ answers etc.)
  * appropriate aids used: visuals, checklists, handouts
  * voice and communication

4b.3 At end of lesson: discuss the lesson plan with X
  * make notes on good and bad points
  * is it systematic with enough detail
  * are there stated objectives
  * are the methods right for the domain of the objectives

4b.4 Have a discussion with X on the kind of teaching (s)he normally does:
  * amount of lecturing; kind of lectures
  * amount of practicals; how they are done
  * any problem solving, communication skills, attitudes?

Ask for specific examples; triangulate with description of activities in 4.

5. Non-specific effects: interview schedule for ex-students

NOTE:
- If no longer teaching, will have to ask about their past practice.
- If supervising/ planning, ask if they encourage others to do it.

5.1 General

On the TPHC course you learnt about training. Did you learn or gain anything else during that time, not about training specifically, which has been useful to you since?

* personally, in the family, at work?

5.2 Working with other TPHC students

Have you ever worked together with other TPHC students?

* on what project?
* how did it go? was it helpful, or was there trouble?

5.3 Career advancement

Looking back, do you think TPHC advanced your career?

* how specifically?

5.4 Relationship with students

* How well do you find you get on with your students generally?
* Is it different now from before TPHC? In what way?
* What do you think they think about you?
  - what makes you think that? (give specific examples here)
  - any relationship to TPHC?

5.5 Caring for students

Obviously you do your best to help your students to learn well. Are there also other ways in which you try to help them?

* personally, socially
* where did you learn to do this? specifically now (NB watch for politeness bias)

+5. Non-specific effects: interview schedule for bosses, colleagues

NOTE:
- If no longer teaching, will have to ask about their past practice.
- If supervising/ planning, ask if they encourage others to do it.
- Focus group discussion if there is a group available.

+5.1 General (this only useful if the people worked with her/him before)

On the TPHC course X learnt about training. After X came back, did you notice anything else (s)he had gained, not related to the area of teaching or assessing or curriculum planning?

+5.2 Career advancement (only useful if at least a few years after TPHC)
Do you think TPHC advanced her/his career?
* how specifically?

+5.3 Relationship with students (if it's a group I'll have to ask them to write this one down)
* How well do you find X gets on with the students generally?
* Is it different now from before TPHC? In what way?
* What do you think the students think about X?
  - what makes you think that? (give specific examples here)
  - any relationship to TPHC?

+5.4 Caring for students
Obviously X does her/his best to help the students to learn well. Are there also other ways in which (s)he tries to help them?

* personally, socially
* have any of these activities been her/his idea? which? when did (s)he suggest them?

5a. 'Oomph' - interview with ex-student

NOTE: I'm going to be strictly naturalistic about this one - try to get the ex-students to talk:
- When they describe their work they will mention some efforts at innovation, or changing things. Make careful note of these.
- Then try straightforwardly:

5a.1 On training courses people usually learn knowledge and skills. That is expected of them. Yet sometimes they get more than that - they seem to get a desire to move, to do things better.
* Now did any of the courses you attend ever do this to you? Which ones, and how?
* or probe: list all the things they seem to have done by way of innovation; point out the extra effort it cost them.
  - Did the course contribute in any way to this desire to 'get moving'? Did something happen to you there that made you want to do something new, something better?
* Have you ever seen something like this happen to any of your students? What do you think made it happen?

5a.2 If that doesn't work too well, try this story:

I know of this enrolled nurse who went on a training course to learn how to start up a village health worker programme. She had only ever worked in the wards. After she came back she started her work. She was quite alone - her supervisor was not very interested, and not very knowledgeable. She had to travel far every day to the community; sometimes sleep in the community for a few days (leaving her family for that time). She had to walk miles in the community to get to meet people. She had to push the community authorities to get moving. She had to plan and conduct the training for the village health workers. Her colleagues were amazed - they never thought that she would be able to do such difficult things, with such confidence. And they were amazed that she put up with such hardships. Yet she carried on - it was as if there was something that was pushing her.

* You came back and tried to do XYZ (after all courses, not just TPHC). In stead, you could simply have sat down and done nothing. *Why* did you try? What was that 'something that was pushing you'?
* Did any part of that 'something that was pushing you' come from the course? What specifically? and how did the course make it happen?
* Have you ever seen something like that happen to any of your students? What was it that made it happen do you think?

+5a. 'Oomph' - interview with bosses/ colleagues

+5a.1 A bit earlier I asked you if X had gained anything more from the course than just knowledge and skills related to training. Do you remember?
Now I want to ask you: did you notice any change in motivation in X when (s)he came back?
* Specifically what did you notice?
* (if there is any specific change) Have you any idea what caused this change?

+5a.2 Have you ever noticed the same thing in others who have been on courses? Perhaps in yourself, or your colleagues, or your own students?
* Give specific examples.
* What do you think caused the increased motivation?

6. Future communication - personal particulars for all respondents

- I would like to remain in touch with you for the following reasons:
- If some of the information I have obtained from you is not clear, I would have to ask you to clarify it.
- Other important points may come up when I visit other ex-students later. In that case I need to get back to you, to find out what you think.
- As a participant in the investigation, you should receive a final report.

So can you please help me to remain in touch, by supplying the following information:

Your name:

Postal address until the end of 1994 - the most reliable one (work or home):

Telephone number until the end of 1994 - the most reliable one (work or home):

town code: number:

Fax number until the end of 1994 - if you have one:

town code: number:

Cost of postage - do you need assistance with this? YES / NO

Thank you!

Appendix 2 Preparation for visits

A2.1 Example of the first letter to an ex-student

Evaluation of the "Teaching Primary Health Care" Course

May I introduce myself. My name is Detlef Prozesky, and I work at the Liverpool School of Tropical Medicine. I have been given the task of evaluating the "Teaching Primary Health Care" course. As you probably know this course has been running yearly since 1979, and the Education Resource Group (formerly ERGHS) wants to evaluate it thoroughly. Anne Gordon, the course secretary, has given me the particulars of all past students; that is how I found your name.

As part of the evaluation I have to follow up a sample of students in the countries where they live and work. Sierra Leone is one of the countries that we have sampled; that is why I am writing to you. I would very much like to visit you in February 1993, as part of a trip to West Africa. Our aim is **not** to evaluate you, or your work. We are evaluating the TPHC course itself; so we want to find out from you whether it has been useful to you, and whether you have any suggestions for improving it.

Another matter: we are now publishing a health magazine twice a year. It is called "Learning for Health", and contains useful articles, teaching tips, book reviews etc. It is about 24 pages long, and it is free. We thought you might like to be put on the mailing list (if you are not getting it already).

So I am including with this letter:

- A short questionnaire, together with an envelope and an "international reply-paid coupon". You can exchange the coupon in your country for the necessary stamps to send the letter back to us by airmail. If you are willing to help with the evaluation, please fill in the questionnaire as soon as possible and send it back to me. It will only take a few minutes to do. You will notice that I ask for particulars of other students from your country. Please don't take too much trouble with that section; only write about what you know at the moment.
- A letter for your supervisor, if you have one. I have to ask him/her for permission for the visit, and would be most grateful if you could pass it on to her/him (I have also written to the Ministry of Health, to inform them and get their consent).

Perhaps you are no longer involved in PHC training; you may have changed your job, or retired from work. We would still like to hear from you. If we only get information from those students who are still trainers, it will give us a false idea of the effect of the course.

I look forward to hearing from you and to meeting you, etc.

A2.2 The questionnaire accompanying the first letter to the ex-student

Your name:

Your complete present postal address:

Your telephone number (if any):

- **WORK: (city/town code) (number)**
- **HOME: (city/town code) (number)**
- **FAX: (city/town code) (number)**

Do you wish to receive our magazine "Learning for Health"? .....

If we were to visit you, we should arrive at a time when you are available.

- **Is there any time from January to April 1993, and August to October 1993, when you will NOT be available?**

- **Please give the dates of any public or religious holidays during the these two periods:**

- **Are you going to be teaching on any training courses during these two periods? If so, on what dates? (more or less):**

If we were to visit you, we would need to get permission to do so from your employer or supervisor. Please write down below the names and addresses of the persons whom you feel we should contact about such a visit:

1. name:
full address:

phone number: (town code) (number)

2. name:
full address:

phone number: (town code) (number)

TPHC is a "Training of Trainers" course. Have you taught on any "Training of Trainers" courses since you left Liverpool? yes ☐ no ☐
If "yes", when was the last time you taught on such a course?

continued on other side .....

Here are the names of some of the other TPHC students from your country, with whom we have lost contact. Do you know where any of them are now? If you do, please write down their present address below.

name and previous address of past student	*do you know this student?*	*what is their address now? (if you know it)*

THANK YOU!

A2.3 First letters: other

The following additional letters were written to each country:

- Letter to Ministry of Health, asking for permission for the follow-up visits.
- Letter to the supervisor of the ex-student, asking for permission to visit.
- Letters (reply-paid coupon enclosed) to possible contacts of ex-students lost to follow-up: past employers and sponsors; other addresses found in student files in records
- Letters (reply-paid coupon enclosed) to contacts of the School of Tropical Medicine, asking for advice and help with accommodation and transport while in the country.

A2.4 Example of the second letter to an ex-student

Itinerary for proposed follow-up visit to past "TPHC" students

Thank you very much for your reply, and for taking the trouble to complete the questionnaire. The information has helped me a lot in planning the trip. Thank you also for indicating that you would be willing to co-operate in the follow-up project.

I include for your information an itinerary of my proposed trip. As you are aware things do not always work out as one expects, so I may have to alter it once I am in your country. However I will try to stick to it as closely as possible.

I would be most grateful if you could make the following preparations for the visit:

- Set aside a couple of hours for me to interview you, about what you have been doing since returning from the course in Liverpool.
- Arrange for me to interview colleagues, who know your work well.
- Make a collection of documents that you have written, which you use in your work as a trainer, and which have been influenced by the TPHC course. I would like to have a look at them when I come.
- Arrange a session where I can observe you teaching a group of students - nothing special, just what you would do routinely.

Once again, I would like to stress that the aim of the visit is to see how effective the TPHC course is. We are not evaluating you or your work; we simply want to find out whether TPHC has been useful to you or not, and why.

May I also ask for advice about accommodation? I would like to stay in a medium priced local hotel - not the Hilton, but rather the kind of place that a colleague from Sierra Leone would stay in if s/he visited your town. Please make a booking for me for the dates when I shall be with you. I will of course pay for everything myself.

Your Ministry of Health has been contacted, and I will be seeing them in [capital city] before visiting you, to make sure that they have no objections to the project.

I look forward very much to meeting you, etc.

A2.5 Example of an itinerary

TRIP TO WEST AFRICA, FEBRUARY 1993

31 Jan
* travel from London to Banjul, The Gambia: flights SN 602 and SN 509, arriving in Banjul at 18h40
* spend night at Carlton Hotel, Banjul

1 Feb — The Gambia:
* Banjul, morning: Ministry of Health
* afternoon: WHO office Banjul: interview [ex-student]
* spend night in Banjul

2 Feb — The Gambia:
* Banjul, MoH: interview [two ex-students]
* spend night in Banjul

3 Feb — The Gambia:
* travel to Mansakonko; interview [ex-student]
* spend night in Mansakonko

4 Feb — The Gambia:
* Mansakonko - interview [ex-student]
* travel to Basse, spend night at Basse

5 Feb — The Gambia:
* Basse: meet health staff, interview [ex-student]
* travel back to Banjul, spend night there

6 Feb — The Gambia:
* travel to Banjul, spend day doing administration
* spend night in Banjul

7 Feb
* travel from Banjul to Freetown, Sierra Leone: flight GH 563, arriving Freetown 12h15
* spend night in Freetown: Diplomat Guest House

8 Feb — Sierra Leone:
* Freetown: visit MoH - [three officials]
* spend night in Freetown

9 Feb — Sierra Leone:
* travel to Moyamba: interview [ex-student]
* spend night in Freetown

10 Feb — Sierra Leone:
* travel from Freetown to Bo
* spend night at MRC Office in Bo

11 Feb — Sierra Leone:
* Bo: interview [two ex-students]
* spend night in Bo

12 Feb — Sierra Leone:
* Bo: interview [ex-student]
* travel to Serabu, spend night in Serabu Mission Hospital

13 Feb — Sierra Leone:
* Serabu: interview [two ex-students]
* spend night in Serabu

14 Feb	Sierra Leone: * travel from Serabu to Freetown * time for administration; spend night in Freetown
15 Feb	Sierra Leone: * travel from Freetown to Port Loko; interview [ex-student] * spend night in Port Loko or Makeni
16 Feb	Sierra Leone: * Makeni: interview [ex-student] * travel back to Freetown; spend the night there
17 Feb	Sierra Leone: Freetown - free day
18 Feb	* travel from Freetown to Accra, Ghana: flight GH531 * spend night in Accra with [Liverpool contact] [address]
19 Feb	Ghana: * Accra: visit MoH - [two officers] * contact MoH and Medical School to trace more ex-students
20 Feb	Ghana: * travel from Accra to [Liverpool School contact in Ghana]; spend the night with him
21 Feb	Ghana: * travel to Nkawkaw, spend the night there
22 Feb	Ghana: * Nkawkaw: interview [ex-student] * travel to Odumasi-Krobo; spend the night there
23 Feb	Ghana: * Odumasi-Krobo: interview [ex-student] * travel to Keta/ Ho; spend the night there
24 Feb	Ghana: * Keta/ Ho: interview [ex-student] * travel back to Accra; spend the night there
24-26 Feb	Ghana: * Accra: interview [six ex-students]
27 Feb	Ghana: * Accra: time for administration; spend the night there
28 Feb	Ghana: * Accra: time for administration * 20h15 depart for Amsterdam: flight KL 586, arrive 06h05
1 March	travel Amsterdam to Manchester flight KL151, arrive 10h05

A2.6 Second letters: other

The following additional letters were written to each country:

- A letter advising the supervisor of each ex-student of the itinerary and the nature of the visit.
- A letter to each ex-student that did not reply, sending a copy of the itinerary, and announcing my intention to try to locate them in the spare days included in the itinerary for that purpose.

Appendix 3 Criteria for assessing quality and quantity of output

A3.1 Specific Items (SIs) taught on the TPHC course, not used subsequently

NOTE: these are grouped in 11 'General Areas'

1	***curriculum development*** all used
2	***lesson planning*** all used
3	***teaching skills: specific methods*** all used
4	***teaching skills: interaction/ participation*** all used
5	***teaching skills: making and using teaching materials*** all used
6	***assessment*** all used
7	***course evaluation*** not used: 1 preparing 'new' data collection instruments for course evaluation 2 using course evaluation instruments 3 conducting a small course evaluation (any part)
8	***course planning*** all used
9	***teaching orientation*** all used
10	***general*** all used
11	***miscellaneous/ unintended*** not used: 3 starting up a filing system

A3.2 Coding for accuracy (closeness to 'TPHC style') of output

0	didactic, traditional, teacher centred health worker training: • subject-based traditional curriculum • lecture notes only, written or remembered • few methods used, often inappropriately; theory taught by one-way lectures, skills taught by demonstration and poorly supervised practicals; attitudes, decision making and communication skills ignored • teaching one-directional, little participation • few teaching aids used or made • evaluation of training seldom done - superficial 'student happiness questionnaires' at best • assessment summative; theory assessed by essay type questions or low level objective questions; skills assessed intuitively or not at all • superficial learning; teacher centred; little concern for student welfare; curative orientation • a course plan based on tradition or teacher convenience
1	some traces of 'TPHC thought' evident
2	approaching TPHC standard, but clear room for improvement
3	'TPHC style', student centred training: • job-derived, competency based curriculum, leading to well defined learning objectives • written lesson plans (including content and method) • a variety of teaching methods used appropriately for all 5 domains of learning; skills learnt by doing under supervision with checklists; specific teaching of communication skills, decision making, attitudes • teaching interactive/ participatory • many teaching aids used appropriately; new ones made • assessment ongoing; a variety of methods used appropriately, according to the domains of learning • evaluation of different aspects of the training process regularly and appropriately done • deep learning; learner centredness; caring for students and their learning; team teaching; PHC orientation • a course plan based on the sequence of material that will best facilitate learning

comment: It was found that this model was not concise enough. Accordingly it was supplemented by the standards set out in the following section.

A3.3 Standards for individual Specific Items

The 'standard' is the method taught on the TPHC course, or in the course textbooks 'Teaching for better learning' (Abbatt, 1992) and 'Teaching health care workers' (Abbatt and McMahon, 1993).

	'TPHC standard' level 3: criteria
1 curriculum development	
0 doing a needs assessment 1 writing a task list 2 doing task analysis 3 making objectives informally 4 partial/ revision 5 writing a full curriculum	all must conform to the following process: • needs assessment involving all parties • a written task list - the job to be done • task analysis according to the domains of learning • deriving learning objectives from the task analysis • grouping learning objectives logically
2 lesson planning	
0 writing lesson plans	written, with headings: session title, date/ time, place, learning objectives, introduction, suitable learning activities for each objective, summary, assessment, preparations/ materials needed
3 teaching skills: specific methods	
0 lecture	0 interactive, with participation
1 improved practicals	1 demonstration, all practise, feedback, with checklist
2 particular communication games	2 properly debriefed
3 micro-teaching	3 with structured feedback
4 role play, fishbowl	4 as a code/ starter (with debriefing); for practising skills (with structured feedback)
5 field visits/ practical attachments	5 with participation; properly debriefed
6 learning games	6 properly debriefed
7 teaching decision making	7 all practise, good debriefing/ feedback
8 attitudes teaching	8 properly debriefed
9 using presentation skills better	9 *preparation*: notes *speech*: confident, audible, eye contact, suitable non-verbals *visuals*: clear, relevant, well used
10 different methods well used	10 appropriate to the domains of learning
11 projects/ assignments	11 with a clear educational objective
12 making breaks during class	12 explicitly for better attention/ learning

4	***teaching skills: interaction/ participation***		
0	icebreakers	0	deliberately used at start of session
1	codes: pictures, stories, drama	1	lively ensuing discussion
2	finding out first/ brainstorming	2	allowing all freedom to contribute
3	group work with report back	3	clear guidelines and roles; all contribute
4	discussion (ex-student facilitates)	4	facilitating not dominating; all participate
5	accompanying on field visits	5	tasks given; good debriefing afterwards
6	team building exercises	6	deliberately done to improve participation
7	gaining learners' attention	7	deliberately done to improve attention
8	changing seating arrangement	8	deliberately done to improve interaction
5	***teaching skills: making and using teaching materials***		
0	chalkboard	0	planned, clear, large, well spaced, colour
1	pictures/ posters/ flipcharts	1	more frequent, relevant use
2	other projectors/ video	2	more frequent, relevant use
3	OHP	3	correct use: facing audience, pointing
4	using objects: actual or made	4	more frequent, relevant use
5	handouts/ leaflets/ booklets	5	neat, well spaced, content ordered/ prioritised
6	making checklists	6	priority steps, rating scale
7	making own visual aids	7	clear, relevant, use of colour, neat
8	making own games	8	relevant to topic, gains attention, enjoyable
9	having visual aids made/provided	9	clear, relevant, use of colour, neat
6	***assessment***		
0	improved knowledge assessment	0	fewer essays, more short questions/ objective methods; structured orals; valid and reliable
1	improved skills assessment	1	with checklist/ feedback; valid and reliable
2	OSPE specifically	2	stations, clear instructions, checklists
3	improved assessment of decisions	3	clear relevant problem set, debriefing
4	assessment by field follow-up	4	with checklist, feedback
5	assessment continuous/ formative	5	deliberately done, with feedback
6	assessment more valid/ reliable	6	deliberate steps taken (other than above)
7	student logs	7	relevant use
8	peer assessment	8	relevant use
9	questions/ answers in sessions	9	deliberately done to assess; all involved
10	attitude assessment	10	deliberately inferred from behaviour observed

7 course evaluation 3 conducting a small evaluation	3 deliberately done to improve course
8 course planning 0 drawing up a timetable	0 original (not copy); comprehensive; logical sequence
9 teaching orientation 0 deep/ problem-based learning 1 learner centredness 2 attend to learning of individuals 3 tutorial help to students 4 informal discussions 5 team teaching 6 skill/ job orientation 7 PHC/ community orientation 8 attending to student welfare 9 requesting feedback on teaching 10 arranging student social activities	0 application not memorising 1 primary aim clearly to equip/ empower students 2 individual learning needs/ problems attended to 3 individual assistance/ encouragement 4 using informal opportunities for learning 5 mutual support; using expertise optimally 6 focus on job to be done, not subject/ exams 7 focus on majority health needs/ priorities 8 accepting responsibility for student welfare 9 in any format; taking feedback seriously 10 to improve morale of class and individuals
10 general 1 action planning	1 students constantly plan how to apply learning
11 miscellaneous/ unintended 1 starts/ improves resource centre 2 recommending books from course 4 working with more confidence	1 relevant materials, well used, well organised 2 ensuring availability; giving tasks from them 4 appropriate confidence

A3.4 Criteria for assessing the quantity of output

Each job in which each ex-student was involved after the TPHC course is to be evaluated separately according to these criteria.

Criterion 1: ***time spent on training related activity at work***

0	no training related activity at all
1	trivial training related activity
2	less training related activity than other
3	about equal amounts of training related activity and other
4	more training related activity
5	more or less all activity was training related

comments:

- 'Training related activity' includes administration of training.

Criterion 2: ***the amount of learning affected per year***

1	about 10 instances (e.g. of teaching or assessing): trivial, here and there
2	at least 1-2 episodes of learning per month
3	equivalent to at least 1-2 episodes of learning per week (e.g. a workshop or a similar number of ongoing single sessions)
4	equivalent to at least 1-2 full days' worth of episodes of learning per week (a number of sessions equivalent to one village health worker training course, or a workshop repeated)
5	equivalent to more or less full-time episodes of learning (e.g. one whole course for health professionals, or village health worker training repeated)
6	full-time training repeated/ multiplied (e.g. a course for health professionals repeated)

comments:

- By this is meant not how much of his/ her time the ex-student used on TPHC related activities, but how many instances of learning were affected by what s/he did.
- Curriculum development, evaluation and course planning will affect numbers of sessions according to the length of the course.
- Lesson plans will affect according to their number, multiplied if they are used again or by others.
- Teaching techniques will affect the number of sessions they appear to be used in; similarly visual aids.
- Assessment will affect the number of learning sessions the learning of which is assessed by them.
- The number of persons involved in the learning must also be considered: 20-30 persons is taken as normal, and the score moves up or down as group sizes differ.

Criterion 3: ***duration of work during which skills learnt on the TPHC course could be used***

•	the number of years (or months, for the more recent courses)
•	ongoing duration of less than 5 years is counted as 5 years

comment:

- The duration is calculated from the time the ex-student returned home, until the time of the visit by the researcher. These visit took place as follows:
  - * The Gambia, Sierra Leone, Ghana: February 1993
  - * Kenya, Tanzania: April 1993
  - * Zambia, Malawi: May 1993
  - * Lesotho, South Africa: June 1993
  - * India, Bangladesh, Bhutan: March 1994
  - * Malaysia, Pakistan: April 1994
- Any use, even the 'trivial' above.
- Including time while away on 'training of trainers' courses but not others.

Criterion 4: ***the number of people gaining understanding/ skills emanating from the course***

1	one person
2	a small group (for example of colleagues)
3	a number equivalent to a class of students - about 15
4	a larger number (for example individuals from different training institutions at a regional or international TOT)

comments:

- There must be evidence that these persons are converted to the new principles, and are using what they have learnt in their work.

Criterion 5: ***the likely effect of the activities on the 'amount of learning' mentioned above***

1	trivial (e.g. reading a report; having an informal discussion about any area of training, making administrative arrangements for training)
2	partial (a course timetable; a visual aid; an evaluation; a book in a library)
3	substantial: it will be largely directed by it (a curriculum; a lesson plan; an assessment)
4	complete: it will be fully directed by it (a teaching technique which is complete in itself)

comments:

- The ideas in brackets are only a guideline - for instance, a curriculum change may be fairly limited, and so score a 2, not a 3.

Criterion 6: ***the geographical spread of learning potentially affected***

1	local institution only
2	more than one local institution, site, organisation
3	nationally (small country); province/state (large one)
4	nationally (large country)
5	internationally

comments:

- The Gambia, Lesotho and Bhutan are judged to be small countries - the rest are large.

Criterion 7: ***the ex-student's contribution to the activity***

0	someone else did it, the ex-student acquiesced
1	mostly done by another, but the ex-student was consulted/ contributed ideas
2	more or less jointly done, or the ex-student was a fully contributing member of a team that did it
3	largely done by the ex-student, but some help or ideas came from others
4	entirely done by the ex-student

Appendix 4 Summary case study and analysis sheet

A4.1 Case study: case no. 80

He was born in 1948 just outside [town] of a farming family. He is the only professional among his siblings. His schooling was very old-fashioned. From there he went on to be trained as a medical assistant at [city] which lasted 3 years. One-way lectures were given, and practicals consisted of demonstrations, then unsupervised practice. The exam consisted of essay questions and one long case.

His first job was as medical assistant in various clinics around [home town] - this lasted two years. He did routine curative work. He was then called to become a clinical instructor at the [city] paramedical school, where he worked until going to Liverpool. The job involved bedside clinical teaching of students, on topics given to him. He used to read up, then demonstrate, then make them do it and give feedback. There were no teaching aids or checklists. It was very hard for him to teach, and it took time before he started liking it.

After a few years he attended a 2 week course in teaching methodology at the MoH in [capital city]. Lectures were two-way, and micro-teaching was done 3 times - for knowledge, practical and another - with peer criticism. He learnt how to make a systematic lesson plan (content). There was little on teaching techniques and nothing on curriculum development. Communication was taught by lectures; for practicals they insisted on return demonstration. He learnt about MCQs. He also attended a number of in-service training sessions on technical matters, where group work was a feature.

One day he saw an advertisement fro the British Council about overseas training (especially on teaching) and applied through his director. He was interviewed, and then selected a year later. He had had no formal training and wanted to improve himself. He knew about the course from a colleague who had been, which was also a reason for applying, and roughly knew the subject matter. He was very excited. A colleague from his school was also going.

He attended the course in 1985. Immediately before TPHC he attended an English course in Edinburgh, for 1 month. He appreciated the group work and the two-way communication; the teaching techniques, which were relevant to his work; assessment methods; curriculum planning; lesson planning with learning objectives. Micro-teaching and the OSCE impressed him, but he felt that too much work was given. One visit was no good, but the others were useful, and the tutors were not equally good. As a result of the course he changed he says, in many ways: he learnt to make learning objectives; to practice two-way communication; to do group work; to be student oriented. He realised that teaching is not simple.

He still has his portfolio right by him. He uses it every now and then, especially on lesson planning, and feels it was worth having. His project was on goitre, and used it

- but feels these projects are not worth it in situations where the curriculum is given. The only book he uses (and treasures) is 'Teaching health care workers'. He feels the course should also include technical topics, related to students' present needs.

In 1988 he attended a workshop on OSCE; also another on how to teach skills.

He returned to the same job in [city], teaching medical assistants, and has remained there until now. There were four colleagues, all of whom were keen to hear about what he had learnt.

Now the job consisted mostly of classroom teaching , bedside teaching, and short courses for other medical personnel. There was also a fair administrative load. He wanted to change his technique of teaching: from one-way to two ways, a proper lesson plan and so on. He was keen for others to be sent on the course too. His superior noted that was very enthusiastic, although the course didn't help him to be promoted. However this didn't last, and he now has to be 'pushed'.

During this time they revised the curriculum for the medical assistants - he was given 'alimentary system diseases', with a guideline on what diseases to teach; so there was nothing new in that. Then secondly he was asked to make a curriculum on PHC for medical personnel who have to do with PHC, health inspectors etc. (later only the medical assistants used it). He based it on information from traditional authorities, what they really wanted; and on a survey done by the Medical Department, about common diseases affecting rural areas. Thirdly there was a curriculum for ' Village health promotors', for which there was no material except 'Teaching health care workers', which was checked by the MoH and was about to be about to implemented. His boss confirmed that he worked on these two curricula.

Regarding lesson plans, the course upgraded what he was doing before, and he now started actually making them, using objectives (which he pushed his colleagues to start using too). His boss confirms the change, and now supervises lesson planning and teaching. His method of teaching changed to be more interactive; use of teaching aids like OHP, models, epidiascope, flipcharts (before it had just been the chalkboard). He started using group discussion, dividing the class. A further change was the use of checklists for practical procedures, of which he prepared 10, and used to observe students' return demonstrations after ours. His student confirms that he teaches clearly and with some interaction, sometimes using the OHP and visual aids. His boss says he has a lot of prepared transparencies, and generally prepares his work well.

Regarding assessment, he started using rating scales with marks on checklists. He arranged OSCEs (on instruction from the Ministry) - one station per system, with checklists. He started using objective questions at the end of each week (this started after Liverpool), and also sets long questions on clinical management as a problem solving exercise.

He feels he has been able to implement 75% of what he learnt in Liverpool. His

resources are adequate, although he is pressed for time. The library is good. The staff is supportive, but need to be persuaded. He has not worked really closely with other TPHC graduates, but there is an informal fellowship. He feels a bit negatively about the course in terms of his career - it kept him in the same place. He feels the course brought him closer to his students, which was good for learning. When he visited them at their workplaces he started sharing a room with them, and as a result they shared their problems freely.

He provided a number of documents for scrutiny. The 'Proposed curriculum for a PHC course for VH Promotors' includes a task list for them (so is problem orientated, only including topics essential to VHPs' work); gives a list of teaching skills needed; teaches relevant theory and soft skills (adult learning, the learning styles questionnaire, participation skills, situation analysis); teaches different teaching methods, according to the learning domain (micro-teaching, group/ individual work or assignment, group discussion, field experiences, demonstration and practicals with checklists, 'attitude' role plays, communication checklists, written communication); teaches assessment methods according to domain (preparing OSCE stations, using MCQs and short questions); teaches definition of learning objectives and lesson planning; teaches skills in course evaluation. Not all skills are listed though, and some skills appear to be discussed rather than practised.

His 'tutor's guide to the medical assistant curriculum' for diseases of the alimentary system shows a mastery of technical knowledge, but neglects skills at the expense of theory. His numerous lesson plans (in [local language]) contain general and specific objectives; details of time, content, method, AV aids; and oral and 'objective' assessment questions. This is probably Ministry policy and not due to TPHC, and the method is always 'lecture plus OHP'. Accompanying handouts are neat and well spaced. OHP transparencies are crowded notes, and there are four multiple true/false questions at the end of each session. Learning here appears to be largely superficial.

I interviewed him in his office. It was the nicest interview I'd ever had. He was so clear, didn't waffle, spoke slowly and precisely.

A4.2 Analysis sheet: case no. 80

Biographical details

sex	M
year of course	1985
age at entry	37
country where working	[country]
profession	medical assistant
expatriate/ not	not
NGO/ government	government

Quantity

ACHIEVEMENTS - BEFORE (experienced, learnt and performed)

- e: 1-way lectures, demonstrations and unsupervised practice
- e: essay questions and one long case
- d: bedside clinical teaching of students, on topics given to him (read up, demonstrate, make them do it, give feedback) - no teaching aids or checklists
- e: 2 way lectures, MT, peer assessment
- dl: K session, skills session (qual.3), MCQs
- dl: content LP
- e: group work

1988 workshops:

- dl: OSCE, how to teach skills

ACHIEVEMENTS - AFTER

[city] again: mostly of classroom teaching , bedside teaching, short courses for other medical personnel; some administration

- revision of curriculum for medical assistants - he was given 'alimentary system diseases', with a guideline on what diseases to teach: mastery of technical knowledge, but neglects skills at the expense of theory
- he mad a curriculum on PHC for health personnel (only medical assistants used it) - thorough needs analysis P - the result is a curriculum for ' Village health promotors', for which there was no material except 'Teaching health care workers', which was checked by the MoH and was about to be about to implemented P: D3 throughout
  - * task list (leaving out some skills)
  - * definition of learning objectives and lesson planning
  - * different methods correctly used (micro-teaching, group/ individual work or assignment, group discussion, field experiences, demonstration and practicals with checklists, 'attitude' role plays, communication checklists, written communication)

    * assessment methods according to domain (preparing OSCE stations, using MCQs and short questions)
    * skills in course evaluation
    * NOTE that some skills appear to be discussed only, not practised
- LP: an upgrading; actually made them using objectives P (which he pushed his colleagues to start using too) - D3
- TT: more interactive; use of teaching aids P (sometimes) - OHP PD1, models, epidiascope, flipcharts - before it had just been the chalkboard BUT: LP method is always 'lecture plus OHP' D1
- TT: started using group discussion, dividing the class P: some interaction
- TT: the use of checklists for practical procedures (he made 10)
- TT: observing students' return demonstrations after hours, with checklist
- handouts D3
- assessment: started using rating scales with marks on checklists; at the end of each class D3
- OSCEs (on instruction from the Ministry) - one station per system, with checklists
- started using objective questions at the end of each week (this started after Liverpool), also long questions on clinical management as a problem solving exercise

He feels he has been able to implement 75% of what he learnt in Liverpool. In summary: 'Before I didn't know how to make learning objectives; one-way communication, after that two-way. No group work, after that group work. Before mostly teacher oriented, after student oriented.'

QUANTITY

parameter	grading	confirmed
time (4-5)	5	y
duration (5 y or ongoing)	9y+	y
contribution (3-4)	4	y
amount of learning affected (4)	4	y
how much learning affected (3-4)	3,4	
spread of learning affected (1-2)	1	y
number of other learners (2)	2	y
OVERALL QUANTITY GRADING	medium	

Quality (pre-course and post-course)

SI	pre-course			post-course		
	reported (d,,l,e)¤	confirmed (i/o/d/p)†	TPHC qual.	reported (y/n)	confirmed (i/o/d/p/)†	TPHC qual.
1.1 task list				y	d	2
1.3 pushing objectives				y	pd	3
1.4 revising curriculum				y	d	1
1.5 new curriculum				y	d	3
2.0 LP	dl	o	1	y	pd	3
3.0 lecture	dl,e	o	0,1	y	p	2
3.1 skills teaching	d,e	op	3,1	y		3
3.2 communication				y	d	3
3.3 MT	e			y	d	3
3.5 field visits				y	d	3
3.8 attitudes				y	d	3
3.10 different methods				y	d	1,3
3.11 assignments				y	d	3
4.3 group work	e	op		y	pd	3
4.4 group discussion				y	d	3
5.0 chalkboard	d	o				
5.1 flipcharts				y	p	
5.2 projectors/ video				y		
5.3 OHP				y	pd	1
5.5 handouts				y	d	3
5.6 checklists				y		
6.0 better K assessment	dl,e	op	0,1	y	d	2
6.1 skills assessment	e,dl*		2*	y*	d*	3*
6.2 OSPE	dl*			y*	d*	3*
6.3 decision making skills				y		
6.5 continuing assessment				y	d	3
6.8 peer assessment	e					

6.9 end-of-session				y	d	3
7.3 course evaluation				y	d	3
8.0 course planning				y	d	3
9.0 participatory				y	p	2
9.1 student centred				y		
9.4 informal discussion				y		
9.6 skill orientation				y	d	3
9.8 taking responsibility				y		

I = internal evidence
D = documents
O = observation
P = other persons

total SIs	10	av.qual.	1 2	total SIs‡	33 26	av.qual.	3
pre-course quality		l-m		post-course quality		h	
ADDED QUALITY	3						

* he learnt this on TPHC, then in 1989 again in [countyy]

¤ d=actually performed it; l=learnt about it; e=experienced it (was taught with it)

† i=detailed information given; o=was observed doing it; d=documentary proof; p=other persons confirm it

‡ first total: reported; second total: validated

NOTE: again he did not arrange for me to see him teach a class - various excuses.

Output

3x3=9
NOTE: this will increase once the VHP programme is implemented; the VHP quality is included in it because the curriculum is already written.
NOTE also: his teaching appears to be pedestrian (see LPs and OHPs) but is not without interaction (see student comments)

Validity of the record

The evidence is there. His boss says he did the VHP manual alone, so I can take it as evidence.

Non-SI benefits/ results

- [about the effect of the course on his career] 'It's all the same. I'm still a tutor as it was before. That's why I'm stuck teaching here, we can't change our job, unlike [colleague]
- He feels the course brought him closer to his students, which was good for learning. When he visited them at their workplaces he started sharing a room with them, and as a result they shared their problems freely.
- 'That course brings you close to students. Before you tend to stand higher than students, now the same level. So they'll tell you all their problems. The

disadvantage is, they don't respect you after that, but you know their problems most. But I think the former outweighs the latter - they learn more. They feel free to talk, especially when you go to the outstations they are attached to and sleep in the same room. They'll tell you all their problems.'

Factors affecting output (full/ failure/ opportunity)

IN-COURSE FACTORS

- The only thing: overwork - too much work given. Group work - no time to do anything.

DESCRIPTION OF EVENTS FOLLOWING THE COURSE (power, self-efficacy, opportunity, resources)

- [about doing a project on the course] Honestly I think it's not worth while. You can't implement it at your level without the help of higher authority. Also the syllabus is made in such a way that you can't implement it.
- His resources are adequate, although he is pressed for time. The library is good. The staff is supportive, but need to be persuaded. He has not worked really closely with other TPHC graduates, but there is an informal fellowship.
- [boss] 'When he came back he was not appointed as a tutor but he was very enthusiastic.' - then: 'I've noticed you have to push him.' (Cf. his remarks about 'being stuck')

RELATIONSHIP BETWEEN 'ENTRY' AND RESULTING PERFORMANCE

- One day he saw an advertisement from the British Council about overseas training (especially on teaching) and applied through his director. He was interviewed, and then selected a year later. He had had no formal training and wanted to improve himself. He knew about the course from a colleague who had been [name] which was also a reason for applying, and roughly knew the subject matter.
- The logic of it? not ideal - he was fixed in a low position in a very bureaucratic set-up.

NOTE: only write factors for which there are specific data - no surmises

factor	code	strength	comments/ explanations
1.1 authority	3p	1	given the chance to write the VHP curriculum
1.2 support	1p	3	
1.3 resources	1p	3	
1.4 time			
2.1 relevance of job	1p	2	highly relevant
2.2 openness of job	3n	2	limited by bureaucracy - couldn't implement his project

2.3 challenge of job			
3.1 self-efficacy			
3.2 background			
3.3 morale	2n	3	feels stuck in this position
3.4 motivation	2n	3	has lost his initial motivation
3.5 agent-of-change	4n	3	'they need to be persuaded'
4.1 outside influence			
4.2 family influence			
5.1 logic of entry	2		logical - getting on, no training, producing health workers for [province] - but it was his initiative

p=positive, n=negative

Appendix 5 Relationship of biographical variables to three output categories

SEX	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• male	11	26%	4	10%	27	64%	42	100%
• female	12	27%	18	40%	15	33%	45	100%
	23	26%	22	25%	42	48%	87	100%

YEAR OF COURSE	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• 1979 - 1981	0	0%	2	22%	7	78%	9	100%
• 1982 - 1984	6	32%	9	47%	4	21%	19	100%
• 1985 - 1987	5	25%	1	5%	14	70%	20	100%
• 1988 - 1990	4	21%	3	16%	12	63%	19	100%
• 1991 - 1992	8	40%	7	35%	5	25%	20	100%
	23	26%	22	25%	42	48%	87	100%

AGE AT ENTRY	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• 25 - 29 years	1	13%	4	50%	3	38%	8	100%
• 30 - 34 years	8	32%	6	24%	11	44%	25	100%
• 35 - 39 years	2	12%	2	12%	13	76%	17	100%
• 40 - 44 years	4	22%	7	39%	7	39%	18	100%
• 45 - 49 years	6	38%	3	19%	7	44%	16	100%
• 50 - 54 years	1	50%	0	0%	1	50%	2	100%
• 55 - 59 years	1	100%	0	0%	0	0%	1	100%
	23	26%	22	25%	42	48%	87	100%

NATIONALITY	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• national	22	28%	21	26%	37	46%	80	100%
• expatriate	1	14%	1	14%	5	71%	7	100%
	23	26%	22	25%	42	48%	87	100%

NOTE: 'national' includes one refugee working among his people in a nearby country, and two persons who moved voluntarily to a neighbouring country some time before.

COUNTRY OF WORK	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• West Africa	4	17%	4	17%	15	65%	23	100%
• East Africa	2	18%	3	27%	6	55%	11	100%
• Central Africa	2	11%	5	28%	11	61%	18	100%
• Southern Africa	3	30%	6	60%	1	10%	10	100%
• South Asia	10	48%	4	19%	7	33%	21	100%
• East Asia	2	50%	0	0%	2	50%	4	100%
	23	26%	22	25%	42	48%	87	100%

- West Africa = The Gambia, Sierra Leone, Ghana
- East Africa = Kenya, Tanzania
- Central Africa = Zambia, Malawi
- Southern Africa = South Africa, Lesotho
- South Asia = India, Bhutan, Bangladesh, Pakistan
- East Asia = Malaysia

PROFESSION	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• doctor	0	0%	1	17%	5	83%	6	100%
• medical assistant	3	20%	2	13%	10	67%	15	100%
• health inspector	2	25%	0	0%	6	75%	8	100%
• health assistant	2	67%	1	33%	0	0%	3	100%
• registered nurse	9	26%	13	37%	13	37%	35	100%
• auxiliary nurse	2	20%	3	30%	5	50%	10	100%
• teacher	2	50%	1	25%	1	25%	4	100%
• social worker	2	100%	0	0%	0	0%	2	100%
• other	1	25%	1	25%	2	50%	4	100%
	23	26%	22	25%	42	48%	87	100%

EMPLOYER	real output		no output		uncertain		total	
	no.	%	no.	%	no.	%	no.	%
• the State	14	23%	17	28%	29	48%	60	100%
• NGO	9	38%	4	17%	11	46%	24	100%
• bilateral programme	0	0%	1	33%	2	67%	3	100%
	23	26%	22	25%	42	48%	87	100%