Management of Technical Services; past present and future

Introduction

The seminar was attended by Technical Managers from 14 universities.

The purpose of the seminar was to examine changes in the management of university technical services and how they might impact on:

- the provision of research and teaching services
- the career paths at all levels from trainee to management grades

This brief report provides outline data displayed so as enable Managers of Technical Services, nationwide, to apply their experience to provide additional data and to comment to the overall picture.

The Structure of the seminar

Four groups were assigned exercises to explore technician career progression from recruitment from school, college or university. Participants were asked to draw on their own experience. They traced the progressive career stages to the more senior roles, for example Chief Technicians, Departmental Superintendents and Technical Services Managers (TSMs). Among other things, the groups explored career progression timelines, formal and informal training, job prerequisites and formal qualifications, past and present.

Group 1

Using a Gannt chart, to trace the career steps of a technician who would at some stage be in charge of a team running ***teaching*** labs. Formal qualifications required for each 'grade' step were assessed.

Group 2

As above for a technician who would progress to and through the management of research labs and possibly a technician ***research*** team.

Group 3

To assess the following:-

1. which of these competences are relevant to '*Managers of technical services*'?
2. how are these competencies acquired?
3. how are (or should) these be planned into the career development portfolio of technical staff?
4. to what extent do '*managers of technical services'* need a technical/ science/ laboratory background experience?

Management Competencies

1. **Relating actions to Institutional Aims and Objectives**
2. **Managing resources effectively**
3. **Initiating plans/ projects and taking critical decisions**
4. **Maintaining personal and organisational effectiveness**
5. **Exercising leadership**
6. **Managing change**
7. **Managing training and development**
8. **Communicating and working in teams**
9. **Supporting a commitment to service culture**
10. **Dealing with poor performance**
11. **Establishing and developing information management and communication systems**
12. **Promoting and managing a safe working environment**
13. **Managing budgets and purchasing procedure and policy**
14. **Applying institution personnel policy**

Group 4

To assess which parts of the framework described below apply to Managers of Technical Services in universities?

Management Competency Framework

What does 'management' in higher education mean? Marshall et al, 1997, proposed seven 'fields' of knowledge and activity essential for the effective manager in HE.

- professional identity. Managers must have a good understanding of their institution, the higher education sector and its wider context. They must also be cognisant of their own responsibilities.
- strategic leadership and management. Managers must have a good understanding of their institution's strategies and the relationship with their own management functions. They must also be adept at strategic planning in their own area of responsibility.
- operational leadership and management. Managers must be able to assure the quality of inputs, processes and outputs and anticipate, plan, implement, monitor and evaluate change to core activities as imposed/ required/ suggested by wider contexts.
- financial and physical resources management. Managers "must be able to plan, develop, maintain and dispose of physical assets in sympathy with their unit's strategic priorities" (Marshall et al, 1997 p44). They must also have a good understanding of budgets and accounting systems and deal with both physical and financial resources in line with institutional guidance.
- human resources management. Managers "must have a good knowledge of planning, recruiting, selecting, inducting, motivating, supervising, evaluating and rewarding staff" (Ibid). These activities must be undertaken in the light of equal opportunities and health and safety legislation.
- information management. Managers must be able to utilise, develop, maintain and evaluate systems that ensure adequate information is available to inform operational and strategic decision-making.
- academic leadership and management. The central work of higher education institutions is identified as quality teaching, research and community outreach. Managers in higher education must be able to plan, develop and support this work.

The group was further asked to list specific and or typical examples of strategic leadership and management that are undertaken by *Managers of technical services*, and to suggest how these competencies may be accredited.

The outcome of the group exercises

The exercises demonstrated that the roles of Managers of Technical Services have been going through an extended period of change. The working groups were asked to assess issues that were complex and varied; a huge task to be undertaken in what was a short seminar. Nevertheless, it was considered to be worthwhile to circulate the findings and to present them in a form that will enable further review and reflection among Managers of Technical Services across several disciplines. They are presented as short statements, to which further comment is invited

You are invited to comment on the statements and to record whether you assess whether each one is valid (Yes or no)

Group 1 Exercise: Tracing career issues of technicians who would at some stage be in charge of a team running *teaching* labs.	**Valid**
Teaching labs are generally suitable for trainee entrants	
Grade 3/4 posts often used by graduates to provide entry point to university system.	
There is an established need for lab assistants/lab stewards with no science qualifications, employed at Grade 2/3 only, to carry out basic duties in direct or indirect support of lab teaching services	
Teaching technicians require organisational and planning skills with an ability to work to deadlines	
The technicians have a direct laboratory role with students, advising on, and demonstrating practical techniques	
Technicians have much more say in the design of experiments	
There has been a reduction in the number and complexity of student practical classes as technician numbers have been cut.	
Valuable organisation, administrative and management experience is gained in teaching labs. This makes an essential contribution towards career progression en route to roles including the management of resources (financial and space), leadership, strategic planning	
There is a danger that teaching technicians get stuck in a career rut even though many have 10-15 years lab experience	
Some technicians opt to remain in teaching labs, because the role offers a more positive wok/life balance	
Career qualifications and experience: Trainee/Grade 2 - 4 relevant GCSE Training is largely among technical and academic colleagues on the job	
Grade3/4 (old B/C grade) – BTEC/ONC ; at least 5 years experience The skills training requirements tend to be haphazard other than for safety and lab techniques	
Grade 6 (old F) – above with wide teaching experience (old Blue Book defined as 10 years experience but current legislation does not allow time limited experience). There appears to no requirement for qualifications above the equivalent of HNC.	
Some teaching technicians do successfully progress towards 'management roles'	

Group 2 Exercise: Tracing career issues of technicians who would at some stage be in charge of a team running *research* labs	**Valid**
Technicians who are involved directly in (lab) research projects are rarely funded by HEFCE money	
6 year appointment rule will affect numbers of HEFCE funded technicians.	
Technicians recruited to externally funded research projects are often required to have specialist skills and lab experience.	
There is an increasing tendency for technicians to be more involved in the design of experiments and research outcomes	
Research Assessment Exercise determines, or at least influences, available funding for pool technicians.	
There is a distinct need to develop a portfolio of research skills and experience (so as to support career development).	
It is increasingly difficult to distinguish between research assistants and research technicians	
Some research technicians see their role as an introduction or passport to a Masters degree or PhD.	
Career development might flow from specialist skills, such as safety officer and research fellow	
In order to progress up the management career path, research technicians might be encouraged to do an MBA	
There is a case for funding higher degrees for research technicians.	
Entry qualifications: Minimum is degree entry to Grade 4 (old C) – often used as preliminary step to enrolling for Masters or PhD	
Masters and PhD employed at Grade 5/6 and above (old E/F)	
Grade 6/7 (old F/G) will be expected to have sophisticated lab skills plus leadership and management skills.	
PhD entry at Grade 6/7 can be a career decision to enable a future in pure research for persons who do not want to be an academic or research fellow needing to raise own funding.	

Discussion Points	Valid
There appears to be 2 separate career routes, both equally valid and important: Research has a much sharper focus on qualifications and skills base and attracts people who enjoy original research and are skills focussed Teaching on the other hand attracts people who enjoy science but have a more operational and organisational skills.	
It is still possible to take trainees/BTEC level into teaching labs that can then transfer to research later but not appropriate to use externally funded research projects to fund trainees.	
Qualifications act to complement practical experience.	
No clear route for technicians to move from research into management.	
Particular problems when externally funded research projects are funding the salary costs. Need to use the staff review process to identify skills, interests, career options and training.	
Suitable career development training would include safety legislation, equal opportunities legislation and HR, University governance and leadership and management/supervision.	

Group 3 Exercise: Explores the relevance of particular competencies to the main roles of Technical Service Managers	**Valid**
All the competencies listed in the table are relevant to a Manager of technical services.	
Whether the competencies are all included in the job specification may depend on whether the job has evolved around a particular person, or has been structured for an open recruitment.	
By and large they are not considered as prerequisites as part of the in-house career promotion process. They do not therefore form part of structured personal development plans designed to underpin career progression	
Managing resources and maintaining personal and organisational effectiveness (2 and 4) are acquired via professional experience, underpinned by training.	
The majority are acquired via a combination of (applies to 3,4,5,6,7,8,9,10,11,12,13):- • Training (on the job plus internal and external courses) • networking (eg NABBS and other departmental managers) • learning on the job/experience	
Experiential learning is gained by involvement in meetings, committees and working groups external to the dept/school to learn more of current policies and broader understanding of the university business (applicable in particular to 1 and 14; Relating actions to institutional aims and objectives and Applying institutional personnel policy)	
Career development portfolio occurs via a combination of PDP interviews and staff reviews/appraisals to identify objectives	
Lateral career movement results from a combination of specialisation and acquired skills. These include safety, HR, full time training and development roles, procurement, finance, building services officers	
Technical/science/laboratory experience is essential for at least 75% of the job in particular safety, HR and purchasing.	
Relationship to senior management (eg HoD or HoS) is important	
Rotational headships are detrimental influence on the role of technical manager	
Heads should be appointed by interview and could be non-academic appointments.	
(NB Manchester and Leeds have full time, permanent General Managers who carry an overall management responsibility and support the senior management)	

Group 4 Exercise: To explore Technical Service Managers input into strategic development.	**Valid**
The extent of involvement in all, seven 'fields' of knowledge and activity essential for the effective manager in HE (proposes by Marshall et al, 1997) could not be assessed in detail. Each would require more detailed analysis as to meaning and application within roles. The group concentrated on the following:- *strategic leadership and management. Managers must have a good understanding of their institution's strategies and the relationship with their own management functions. They must also be adept at strategic planning in their own area of responsibility.*	
Central University sets strategy but technical managers can have input into strategy with regard to : • Strategic Research Infrastructure Fund and Research Equipment Initiative applications • Safety Management • Estates Management • Staff Training	
Involvement with strategy is a result of expertise and continuity.	
Locally, at School/Dept level, technical managers are involved in implementing institutional strategic aims in a way that supports local research and teaching needs. These would cover: • Safety management • Teaching • Building resources • Staff development	
Technical managers take a lead role in planning and managing resources.	
Technical managers act as the bridge between these specialists and the needs of research and teaching.	
The change to appointing external specialists for eg finance, purchasing, safety to many depts can cause problems as they do not understand the core business.	
There has been a change in the overall picture of depts, with a move to increased professionalism which needs to be reflected in technical management.	

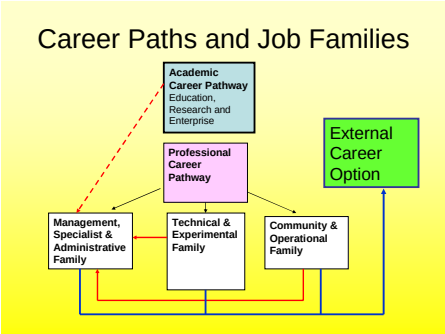
Management of Technical Services; past present and future?

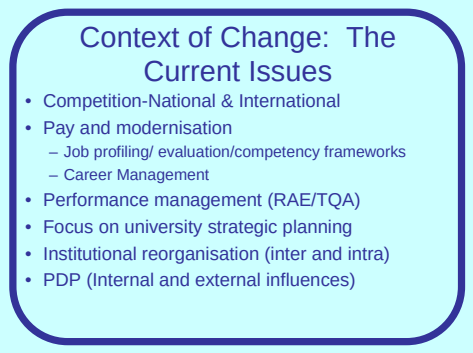
The seminar was probably too ambitious in its scope. It was useful in drawing on the considerable experience of the participants and, in so doing, it developed a broad picture of the position past and present.

This summary invites national and local groups of Managers of Technical Services to add more detail, hence the presentation of the broad concepts in the table format. Detailed commentary will be particularly helpful.

Career management was a theme running through the day. This is important for the individuals that are directly providing or managing technical services. Because there is an inevitable impact of motivation, structured career development is important for the quality of technical service provision and hence value for money.

There are groups of issues that could be addressed by a national conference of TSMs.





These may be addressed in the context of the following:-

- trends in hierarchical relationships
- extent of executive responsibilities
- are managers of technical services part of the technical staff structure,
  - if not, what are the implications for career aspirations?
- to what extent will technical manager appointments be governed by the attainment of management competencies and managerial qualifications?
- if recruitment to technical manager positions is via an administrative or managerial route, what will be the impact on the quality of technical services?
- how might this affect technical staff personal development plans?
- how and to where do technical managers progress

Carol Davison
University of Leeds

Ken Bromfield
King's College London