NATIONAL TRAINING BOARD : WORKING COMMITTEE 10

PROJECT: EDUCATION, TRAINING AND DEVELOPMENT (ETD) PRACTITIONER DEVELOPMENT IN SOUTH AFRICA

PHASE 1: RESEARCH AND DEVELOPMENT

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Conceptual Framework: Working Paper 1

THE TRANSFORMATION OF WORK, WORKPLACES AND OCCUPATIONS

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THE TRANSFORMATION OF WORK, WORKPLACES AND OCCUPATIONS

1. INTRODUCTION

The process followed by Working Committee 3 of the National Training Board (NTB) when developing a framework for ETD Practitioner development, included a future dimension. It was deemed important to focus on current ETD work in South Africa, but also to identify approaching forces and trends, and their resultant implications for this work in the years to come.

The economic dimension of modern society, or more specifically, the dynamics and organisation of the global capitalist economic order, is therefore the focus of this working paper. Whilst the economy cannot be treated in isolation from its companion societal dimensions, i.e. political, social and cultural dimensions, the current emphasis on the links between work and education and training, makes it necessary to investigate changing forms of global economic discourses. South Africa may be a late entrant to the global arena but she is, nevertheless, an entrant. Whilst our common sense tends to tell us that it is inappropriate to approximate South African political, economic, social and cultural environments to developments in the Northern hemisphere, we have, in a sense, no option. The models which are being proposed for both the economy and the education and training system are neither original nor a-contextual. They find their antecedents in the economies of Western Europe, North America and, more recently, Australasia and Japan. Although we may see ourselves in an altogether different situation to many of these countries, we must take note of global future trends and resultant shifts in power relations in order to understand the world that ETD practitioners of the future may encounter, even if in ideological rather than practical form.

2. GLOBALISATION AS MACRO-FRAMEWORK

Popular understandings of globalisation usually refer to an increasing awareness of global interconnectedness, brought about primarily by the electronic media's ability to bring distant events to their audience's immediate attention, thus creating a momentary sense of a globally shared community, (eg. as typified by the broadcast of the Rugby World Cup's opening game in Cape Town).

In more precise terms globalisation refers to the complex multiplicity of linkages and interconnections that transcend traditional nation-states and affect the daily existence of people in most countries. It defines a process through which events, activities and decisions in one part of the world can have a significant impact on individuals, communities and countries in other parts of the world. The development of global networks of communication and global market systems of production and exchange thus diminishes the grip of local circumstances over people's lives. The jobs of South African coal miners may, for instance, be more dependent on the pricing decisions made by Australian and Scottish coal companies in the global market than on local management decisions.

Theorists such as Giddens (1990) and Harvey (1989) argue that global discourses should be understood as a feature of modernity. Hall *et al* (1992: 2-8) trace the decisive formulation of the idea of the 'modern' to the discourses of the Enlightenment in the eighteenth century, with their commitment to rational enquiry and human emancipation and their promises of greater scientific understanding and mastery over nature. Through the progress of reason and rationality, a steady and sustainable development in the standard and quality of life of the world's populations would be attained. In the nineteenth century modernity became identified with industrialism and, by implication, with the social, economic and cultural changes associated with industrialism. Debates about the features and implications of modernity therefore tended to focus on the industrialised countries in Western Europe and North America. In the twentieth century modernity, as particular forms of social, economic, cultural and political organisation, has become a progressively global phenomenon. Not all countries experience these particular forms of social organisation in direct ways, but the global impact of electronic media of communication has disseminated the images and messages of 'modernity' in a way that has transformed everyday life and popular culture in all parts of the world. Globalisation has created more uniform reference points; it has compressed our

experience of space and time, (Giddens, 1991); but it has simultaneously created a sense of difference and variety in social values and practices. We feel ourselves 'part of the global world', but we also counteract the pressure of such universalising tendencies by attachment to the 'local'. It is within the tension between the 'global' and the 'local' that new policies and practices are being developed in almost all countries, including South Africa.

In the next section global economic discourses will be explored in greater detail, in order to distil trends that will shape and be shaped by local economic discourses. One cannot talk about shifts in a country's economic base without considering the resultant shift in labour market structures and in the delineation of jobs and occupations. As we are ultimately interested in the implications for those who provide education, training and development opportunities for the people who are currently in the labour market and those outside who wish to enter, we need to understand and consider the world for which they will be preparing learners.

3 ECONOMIES IN TRANSITION AND IMPLICATIONS FOR OCCUPATIONAL STRUCTURES[1]

3.1 From Industrialism to Post-Industrialism

The much-debated move from an industrial to a post-industrial economic order is usually portrayed as the displacement of the centrality of manufacturing technologies and the 'making of things' in an economy. It is anticipated that in the next century only a small percentage of any industrialised country's economically active population will work in the manufacturing sector. Economic power will increasingly be organised around the 'clean' technologies of information systems and micro-electronics. Bell (1973), writing from a US perspective, identifies three successive phases of economic progress: from an agricultural economy - to a manufacturing economy - to a service economy.

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[1] This section draws extensively on the analysis offered by Hall *et al* (1992) in their book *Modernity and its Futures*. Many of the theorists referred to were known to the writer and were read in the original, but in this book both the positive and negative accounts of the future were drawn together in a cohesive framework. The writer also included the work of other theorists, not mentioned by Hall *et al*.

A manufacturing economy is usually equated with a shift to automation, with resultant worker de-skilling and alienation, as argued in Marxist and neo-Marxist discourse.[2] Positive versions of post-industrialism portray technology as solving the problem of mindless jobs through a shift in the kinds of work that people do. Work transformed by knowledge (as embodied by new technology) leads to a fall in manual, manufacturing jobs. At the same time the growth in the service sector creates non-manual jobs, where people work with people to offer a service. This is seen as more rewarding work , with scope for creativity and sociability.

The above-mentioned shift will bring about a change in the occupational structure, as manual work, requiring physical strength and dexterity gives way to 'think' work' - or white-collar and professional occupations. Bell (1973) draws attention to the rise of a professional middle class. He points to the development of a new category of *knowledge elites*, being those who control the production and distribution of knowledge and information. In Bell's view the new technical elites will be found in universities, government institutions and economic enterprises. As intellectual work becomes more specialised, new hierarchies of technical elites will emerge, along with increased professionalisation of work and a shift towards the bureaucratisation of 'think' work within the advanced economies.

Touraine (1971), writing from a European angle and a Marxist perspective at more or less the same time, concurs with much of Bell's analysis. He refers to those who control knowledge as a new 'technocracy' and it is from this vantage point that he develops a perspective, on an issue neglected by Bell, namely a new form of social conflict. Touraine anticipates the formation of a new social divide between technocrats and bureaucrats on the one hand, and a range of social groupings on the other. Principial opposition between social classes no longer stems from the ownership and control of private property, but from access to information and its uses. Class tensions are therefore no longer located at the point of production in the workplace; new forms of protest take a variety of forms as individuals and groups attempt to have greater control over the forces that influence their 'fate'.[3]

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[2] Harry Braverman's *Labor and Monopoly Capital* (1973), is the seminal work in this body of literature.

[3] Consider, for instance, the activities of new social movements, such as the peace, women's and environmental movements.

A later typification of post-industrialism has been the *information society*. Information is seen both as economic resource and as a commodity, with a corresponding growth in what is called information occupations.[4] Castells (1989) refers to the centrality of knowledge as the 'informational mode of development'. He argues that all economies, past and present, acknowledge a role for technology and knowledge in shaping the way in which they organise their processes of production. What is novel about the 'informational mode of development' is that knowledge is used to generate new knowledge, which itself acts as a catalyst for further economic development. Knowledge thus becomes a central means for improving economic performance. It can be used to transform a wide range of economic activities - as a technological process or as a product embodied in a variety of a manufactured goods and services. Castells, however, stresses that an 'information-based society' is no more post-industrial than an industrial society is post-agrarian. An information society is therefore not be confused with a service society in which the manufacturing sector has all but disappeared from view. The argument here is not about the predominance of one particular sector of an economy over others, but about the role and use of knowledge and information as the central dynamic of the coming society.[5]

Not all theorists see post-industrialism as the panacea for the problem of 'mindless' jobs. Castells (*ibid*) identifies a move towards a core-periphery model of the labour market: concentration of labour power among a knowledge elite in the corporations and automation of low-skilled jobs, especially among the unionised workforce in manufacturing. There is, in other words, a marked trend towards the polarisation and segmentation of the workforce. He maintains that information generation and processing is to office work what mass production is to craft-based manufacture. Both precipitate a radical shift in the structure and organisation of an economy.

Gorz (1982) pursues a similar line when he argues that the new technologies are altering the structure of employment, with a social division between an 'aristocracy' of secure, well-paid workers, on the one hand, and a growing mass of unemployed,

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[4] Lyotard (1984) argues that the current transformation of knowledge and its effects represent the economic basis of an emergent post-modern age.

[5] Castells's argument articulates readily with the South African reality, usually typified as a first world-third world mix. It seems more useful to understand these realities as a mix of urban (predominantly technology-driven service and manufacturing activities) and rural (predominantly manual agrarian and craft actitivity).

on the other. Automation progressively undermines the quality and status of the remaining working-class jobs. This kind of work becomes an instrumental activity, undertaken to earn wages and with little or no satisfaction or skill content attached.[6] He identifies another group of workers, which he calls the 'servile class.' He argues that the advances in technology, far from enabling society as a whole to enjoy more free time, have resulted in the economic elite being able to purchase at low cost the services that they had previously been capable of doing for themselves.

According to current analysis, post-industrialism, which focuses on the rise of services and the central role of information, is thus anticipated as having marked effects on the value attached to different kinds of economic 'goods', on labour market structures and the demarcation of occupations as well as on the nature and meaning of work itself.

[Appendix A provides an impression of dynamics and trends of post-industrialism.][7]

3.2 From Fordism to Post-Fordism

Post-Fordist discourse emerged in the 1960's and 70's at about the same time when the post-industrial society was said to be emerging. Shifts from Fordism are seen as having opened up a new kind of economic era - one based on flexible forms of economic organisation and production that leads to a more pluralistic, less bureaucratised, and more decentralised mode of economic life. The debates, like those of post-industrialism, stress the role of knowledge and innovation in the organisation of production and the rise of 'lead' industries, based upon breakthroughs in micro-electronic and information technologies. Their starting point, however,

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[6] See also Berger's (1964) analysis, where he draws on the earlier work of Max Weber to distinguish a threefold division of work: work that provides an occasion for primary self-identification and self-commitment; work that is viewed as a direct threat to self-identification; and, between the two, work that brings neither fulfillment nor oppression - grey, neutral work that one puts up with for the sake of other things, typically those connected with one's private life.

[7] It is, as yet, not clear what exactly it is that we are said to have gone beyond. There seems to be agreement over the passing of industrialism, but Hall *et al*, (1992: 203), argue that the dynamic of information and the emergence of a more divided society that seem to the distinctive features of a new economic form, may be but a single dominant economic dynamic with insufficient capability of transforming the world economy in its entirety. What we may rather see is an uneven global order, characterised by more than one line of economic direction within and between countries.

is the decline of Fordism or mass industry that has characterised the latter half of the twentieth century.

Arguments about the decline in Fordism centred around a concern about the kind of manufacturing process and products that would replace mass manufacturing and production. The inability of mass production methods to achieve further productivity, as well as their limited applicability to other areas of the economy, such as services; the peaking of the resistance of mass collective work forces to monotonous, repetitive rythms of work; and, a shift in post-war global patterns of consumer demand are regarded as key contributors to what is called the structural crisis of Fordism.

Two scenarios are usually sketched for the resolution of the Fordist crisis. *Neo-Fordism* is a more negative scenario that represents an extension of Fordism, while *post-Fordism* represents a break with Fordism and views the consequences of technological developments for the organisation and meaning of work more positively.

Neo-Fordist theorists view developments on two economic fronts as having the possibility of transcending limits to Fordism.[8] The first points to a transformation of the labour process and the second draws attention to the global shifts in the organisation of production. Changes in the labour process include both increased automation in the workplace and the introduction of new work practices. It is argued that technological innovations, such as computer-integrated manufacturing systems, will lead to an overall reduction in the amount of labour that is required; a shift in control away from machine operators to skilled technicians; and, a greater flexibility in production scale, without incurring substantial further costs.

The ability to switch from mass production to small-batch production is held as one of the key features of this technology. It is important to note that this kind of flexible technology finds its social counterpart in the formation of flexible work groups and participatory innovations, such as 'quality circles'.[9]

One of the implications of new production technologies is that greater decentralisation of production becomes possible. The centralisation of managerial control (through electronic information systems), combined with the Fordist break-up of the labour process into discrete

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[8] These arguments are mainly attributed to the French regulationist school, and in particular to Michael Aglietta (1979).

[9] Not all commentators see these changes as leading to greater worker autonomy. See Lloyd (1994) for a critique of 'lean' production systems and team work that characterise neo- and post-Fordist forms of work organisation.

parts, has enabled large enterprises to move their production processes to pheripheral locations. At first this movement took place within the advanced economies, but by the 1970's it had spread to less developed countries, such as Hong Kong, Taiwan, Singapore, South Korea and Brazil and more recently to countries in South America, Eastern Europe and Africa. This search for new locations is driven by a need for new mass markets, as well as an attempt to maintain productivity levels - by utilising untapped sources of cheap, unskilled labour in what are often called under-developed countries. Far from being an even global development, neo-Fordists therefore see 'core' economies developing in the highly industrialised countries, with 'periphery' economies developing in industrialising countries, as well as in 'pockets' or sectors of industrialised countries.

In the 'core' western economies new technologies are said to be creating a polarised workforce. Highly skilled technical workers benefit from increased automation, while the majority of workers are either deskilled or lose their jobs. In the 'periphery' economies routinised, labour- intensive methods of production predominate, creating the possibility for economic advance within the newly industrialising countries.[10] This is seen as happening alongside the decline of 'core' economies such as the UK and the growth of post-Fordist regimes in Japan and Germany. Emerging from these envisaged shifts is speculation about a mix of economic modes of development, rather than the replacement of one mode of development by another, (Hall *et al*, 1992: 194).

Post-Fordist debates identify a number of shared features between neo-Fordism and post-Fordism, (eg. the role of flexible manufacturing systems and the introduction of new ways of organising work to improve quality - as outlined above). These debates recognise the possibilities for job deskilling and increased centralisation of managerial control identified by neo-Fordists, but they also see the new technologies as creating opportunities for enskilling and reskilling. Post-Fordism thus offers the prospect of a multi-skilled (albeit diminished) labour force, operating in a less hierarchical and more autonomous work environment. Further production changes noted by post-Fordists are:

* changes in product life and product innovation, with shorter flexible runs and a wider more diverse range of products on offer;
* changes in stock control, with just-in-time methods removing the need to hold large and costly amounts of stock;
* changes in design and marketing in response to increasingly diverse patterns of

[10] South Africa is usually classified in this grouping.

consumer demand;[11]

* services, especially retail services, occupying an increasingly important role.

[The diagramme in Appendix B outlines the dynamics and trends that characterise post-Fordist debates.

3.3 Economic Transition Re-visited

We have investigated 'globalisation' as a modern phenomenon, by considering debates about possible post-industrial and post-Fordist or flexible economic futures. Shared themes and concerns identified within both trajectories appear to be the folllowing:

Whether the 'global' future takes us beyond the industrial era to a world of services, centred on information technologies and networked offices and/or into a world of flexible manufacturing, pluralistic lifestyles, less bureaucratic and more decentralised forms of economic organisation, and core-periphery modes of economic development, ***knowledge as an asset and a commodity*** appears to lie behind both post-industrial and flexible futures.

The emphasis on the *flexible worker* is a direct outcome of this shift. It is the concept through which the mental-manual division of labour will purportedly be eroded. Flexibility through *multi-skilling* is also deemed as having the capacity to construct a bridge between labour market sectors. By acquiring a wider range of skills[12], workers move away from short-term, enterprise-specific skills to a range of 'portable' skills that have currency across primary and secondary labour markets. There is also an underlying implication that these skills can be utilised in the creation of self-employment in the informal sector.

In both post-industrial and post-Fordist accounts there is a trend towards ***greater not less economic and social inequality***. Polarisation and segmentation of the work force emerge as structural tendencies of the new economic order, rather than being contingent or accidental developments. Low-paid and insecure service workers and increasing unemployment represent the downside of both accounts, while professional information management and multi-skilled

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[11] Murray (1989) notes that the emphasis on niche markets, segmented markets and rapidly changing consumer tastes are shifting cultural expectations and aspirations fron standardised (Fordist) styles to greater acceptance of difference and plurality within the West more generally.

[12] Lane (1993), referring to the German Vocational Education and Training (VET) system, identifies not only technical competence and skill, but also administrative and managerial competence (costing, design and planning of production) and social skills (punctuality, discipline, pride in the product etc.).

tehnicians represent the upside. In this envisaged global future it is women who comprise most of the new 'servicing' class, (Bocock and Thompson, 1992).

Gorz predicts that, unless there are substantial changes in the ideology, organisation and distribution of work, a post-industrial/post-Fordist future will produce work force segmentation of the following proportions:

- 25% will be skilled workers with permanent jobs in large firms protected by collective wage agreements;
- 25% will be peripheral workers with insecure, unskilled and badly paid jobs, whose work schedules vary according to the wishes of their employers and the fluctuations of the market;
- 50% will be semi-employed, unemployed, or marginalised workers, doing occasional or seasonal work or 'odd jobs'. (1989: 225, quoted in Edwards, 1993: 183)[13]

The modern global economic order is undergoing fundamental change and it is becoming increasingly difficult to think in terms of national economies. An *uneven economic order* where the worlds of high technology industry, commerce and finance exist alongside sweat shops and outworking practices, which are usually associated with a pre-industrial era, is found in most countries, regions and cities.

Both post-industrial and post-fordist scenarios portray envisaged economic restructuring as a technically rational *developmental* process which is made possible by technological advances and innovation. Economic growth (or recovery), it is argued, calls for the adoption of sophisticated technology and, concomitantly, new forms of work organisation, underpinned by the systematic development of the skills of the work force through education and training. Different components of a country's economic, educational, social and political system therefore have to be placed in new relational positions, with each fulfilling its function in the greater scheme. Diagrammatically the components of such planned re-organisation has been relationally represented as follows:

[13] Seeing that the official SA Reserve Bank figure for unemployment already hovers around 50%, these figures seem entirely credible from a South African perspective, even though the reasons given for our high unemployment figure follow a different track.

SKILL FORMATION

TECHNOLOGY | EDUCATION & TRAINING | INDUSTRIAL RELATIONS

WORK ORGANISATION

(ACTU/TDC quoted in Foley, 1994: 132)

The role envisaged for education and training in such a re-organised configuration obviously has a determining effect on the direction of educational policy. When education and training is centrally posed as an instrument of economic policy, it becomes the domain of government, business and labour as tripartite economic decision-makers.[14]

Current education and training policy moves in South Africa confirm this thesis. As they are well-documented [15] and currently in circulation in the public arena, we will assume a measure of familiarity. The underpinning concept of 'skill formation', however, requires exploration. The kind of skill (and therefore by implication the kind of learning) required by the desired economic future, is of crucial importance for the development of ETD practices.

4. SKILL FORMATION

From the above discussion three concepts have repeatedly surfaced in relation to the skill required by workers and managers of the future. They are *flexibility* - always used in combination with *specialisation* - and *professionalism.* We need to examine 'flexible specialisation'in conceptual terms and then link it to 'professionalism' in

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[14] This kind of tripartite arrangement exists in most of the countries which South Africa has studied as possible role models and the introduction of NEDLAC as well as the stakeholder composition in the NTB shows that South Africa is proceding in the same manner.

[15] Various documents published by the National Training Board (NTB), the Government White Papers on Education and the RDP respectively, the draft NQF Bill and the forthcoming HSRC document on the operationalisation of the NQF are current sources of reference.

order to start developing a sense of the demands that will be made on educational curricula that will prepare people for workplaces of the future.

4.1 'Flexible Specialisation'

'Specialisation' refers to the technical or occupational category of primary skilling and self-identification, such as electrician, or trader or miner. The addition of 'flexibility' conveys a new or added dimension to traditional job specialisation, calling for a mix of conceptual, interpersonal and technical skills at each job level. The notion of 'flexible specialisation' as we find it in the 'projective/enactive texts' that both *describe* and *create* the new reality of the restructured workplace (Gee, 1994: 83, 96) refers, by implication, to 'core' workers and managers. However, the sobering reality of an increasingly segmented economically active population that emerges from previous sections, compels us to construct a wider meaning of this term.

* For 'core' workers in manufacturing *flexible* specialisation, through multi-skilling, becomes the capacity of transferring skills from one area of work to another. Multi-skilling as a concept implies the 'retainment of existing skills while combining them with new skills in other areas. The implication is that *the ability to handle uncertainty* is increased by extension to a wider range of activities, (Ainley, 1993: 21 - 22).[16] 'Core' manufacturing workers thus become technician-managers and the old mental-manual divide breaks down.

  The implication here is also that, through multi-skilling, workers can be deployed differently as economic demands and production processes change.

* For 'core' service workers *flexible* specialisation means the capacity to offer a service (working with things), as well as deal with clients or customers (working with people). This kind of multi-skilling calls for a combination of interpersonal skills with technical

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[16] Multi-skilling relates to two other versions of skilling. *Enskilling* is viewed as 'extending and developing existing skills within a given specialisation, so that the ability to handle uncertainty is increased within that limited area.' *Reskilling* is viewed as as 'learning new skills in place of old so that the ability to handle the same level of uncertainty is retained but applied to a new specialisation', (Ainley, 1993: 21-22). All three versions of skilling are ways of increasing the ability to deal with uncertainty or unpredictability.

'service delivery' skills. A self-managed or self-regulated service ethic is a key requirement for the 'core' service worker.

* At the upper management levels of both the manufacturing and servicing 'core', *flexible* specialisation refers to the capacity to mediate between the organisation and vast 'fast text' information flows that pertain to ever-changing local and global economic scenarios; the capacity to steer the enterprise through this maze by formulating and communicating an appropriate 'strategic vision' and; the capacity to lead in a non-directive way as coach, mentor and counsellor.

* For the semi-employed, part-time contract worker *flexible* specialisation means the capacity to take on different jobs for economic survival, even though the tasks may be unrelated to the person's initial training or work experience.[17] A high level of polyvalent skill is thus required, without the positive motivating factor fostered by the expectation of employment security.

* For the unemployed *flexible* specialisation is a **barrier** to income generating activity. Even though the debates so far have posed unemployment as a structural feature of economic futures, most societies still hold the opinion that, if people cannot find jobs, it is because they lack skills. Being part of the securely employed or self-employed 'core' thus remains the prevailing social norm and multi-skilled flexibility becomes the means of entering this privileged category.

Specialisation itself, however, does not remain unaffected by this linkage. A specialised area of work draws its authority from a recognised and defined body of knowledge and skill, yet it is at the same time 'sufficiently indeterminate to prevent parts being detached or routinised' (Thompson & McHugh, 1990: 167). If we understand 'indeterminate' as meaning 'having no fixed or defined value' (Chambers's Twentieth Century Dictionary), then a 'specialised area' should not have the capacity

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[17] The other side of this argument is highlighted by Gorz (1990), when he points out that many young people no longer want a full-time job. He refers to research done by Rainer Zoll (1988) in Germany and earlier research by Benevuto and Scartenazzi (1981) in Italy, which shows that the majority of young people in Western Europe - because they cannot find jobs with creative and socially useful aspects in which they can realise themselves - transfer the search for self-realisation or self-identity to other terrains. They frequently prefer to take part-time work that leaves time for the pursuit of their own cultural activities.

to be sufficiently brought under prediction and control so that it warrants automation or computerisation. Ainley (1993) points out that the extent to which an occupation or specialisation is 'deskilled' bears some relation to the 'power' of the occupational grouping.

To emphasise the point he refers to the work of Gallie's work where he [Gallie] argues that:

> [there is] little consensus between analysts about what constitutes skill or how it can be measured ... The very complexity of the task of defining skill makes it implausible that skill classifications in industry reflect in an unproblematic way some objective hierarchy. Rather, they are likely to be the product of a continuous negotiation between employers and employees, in which both relative power resources and prevalent cultural beliefs will influence the grading structure, (Gallie, D. (1988) *Employment in Britain*, Oxford: Blackwell, quoted in Ainley, 1993: 20).

Some occupational groupings may be powerful enough to resist the erosion of specialisation by technology and new forms of work organisation. Modern medicine is a good example. In the world of the modern hospital 'professional expertise, ultra-high technology and complete uncertainty' combine in a way that keeps computerised medical diagnosis at bay, although such methods are now technically feasible, (Ballard, J. G. (1991) *The Kindness of Women*, London: Collins, p. 247, quoted in Ainley, 1993: 19).

Less powerful occupational groupings may, however, not be able to withstand such threat. As automation leads to craft deskilling, flexibility leads to a blurring of traditional job demarcations. Tasks and jobs combine, layers of jobs (such as middle management[18]), fall away as workers become self-managers and organisational and departmental or unit boundaries are re-drawn.

One of the most crucial effects that flexibility has on specialisation is that it crosses the boundaries of established knowledge domains. Being specialised under the authority claim of a particular discipline or field of expertise is no longer sufficient. Flexibility requires individuals to be proficient across a wide range of knowledge

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[18] See, for instance the popular American management theorist, Tom Peters's (1992) *Liberation Management: Necessary disorganization for the nanosecond nineties*, New York: Fawcet, on this issue.

areas, thus increasing capacity to deal with unpredictability. 'Flexibility' and 'specialisation' thus seem to be enemies rather than allies. Access to knowledge and information by employees at lower levels of an organisational hierarchy (through advanced information systems) threatens individuals performing tasks that were traditionally identified as specialised. Workers and managers who are increasingly losing the technical and ideological bases of their work[19] require a way of contesting such diminishment. It is here that the third recurrent term, namely 'professionalism' comes into play.

4.2 'Professionalism'

'Professional status', as a power mechanism, has the capacity to bestow authority and legitimacy on threatened occupations. The pervasive claim to professional status can thus be understood as a counter to loss of work autonomy, but it *simultaneously* constitutes an increased claim to autonomy.

> A strong profession requires a real technical skill that produces demonstrable results and can be taught. Only thus can the skill be monopolised by controlling who will be trained. The skill must be difficult enough to require training and reliable enough to produce results. But it cannot be too reliable, for the outsiders can judge work by its results and control its practitioners by their judgements. The ideal profession has a skill that occupies a mid-point in a continuum between complete predictability and complete unpredictability of results'
>
> (Collins, R. (1979) *The Credential Society: An Historical Sociology of Education and Stratification*, Cambridge MA: MIT Press, pp. 132-3, quoted in Ainley, 1993: 19).

The skill dimension of 'profession' thus requires a high degree of *discretion* (the sanctioned authority to make decisions) and *autonomy* (the ability to make independent decisions and to provide a reasoned justification or rationale for such decisions) in order to cope with the risk and unpredictability inherent in 'profession'.

A glance at the kind of job competence model currently advocated for 'core' workers and managers makes it clear that multi-skilling is likewise premised on high degrees of discretion and autonomy and requires a broader and more complex interpretation

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[19] The *technical* base of professional work refers to control over the 'means' of such work, while the *ideological* base refers to control over the 'ends' of such work. (Rosen and Baroudi, 1992: 228).

of competence. Four components are distinguished:

> *Task Skills* are those skills used routinely in activities which are well-defined and have a conclusion and an outcome which is usually discernible.
>
> *Task Management Skills* are the skills exercised in combining the different tasks of a job, scheduling, dealing with the variability in demands of different tasks, dealing with responsibilities which intrude on routine tasks.
>
> *Contingency Management Skills* are used to deal with events which are liable to occur, but are unpredictable or novel. Contingencies include things going wrong and plans and expectations being changed by external factors.
>
> *Skills of Dealing with Role/Job Environment* are to do with mediating between tasks to be carried out and the natural and artificial constraints placed on the role or job. They include the skills of working with other workers and with people from outside the work organization. They are equally to do with the physical environment of the occupation and with the demands or standards which are imposed - time, safety, cost and so on (Mansfield and Mathews, 1985).

Such a competence typology contains implicit assumptions regarding priority and risk assessment, autonomous judgement and decision making in situations of uncertainty or unpredictablity. It calls for the development of a broader and deeper 'reading' of the context in which the worker or manager is operating in order for them to exercise some control over their work. Types of knowledge and understanding that is not solely related to immediate performance emerge as a crucial requirement for competence.[20] It is clear such a version of competence finds its ideological underpinning in 'professionalism, both as a legitimating concept and as forms of practice. Whilst such a move may not necessarily constitute anything new at managerial level, the political struggle will be about its introduction at 'shopfloor' or worker level and the impact on wage levels, job demarcations and job grading systems.

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[20] Functional analysis, the most commonly-utilised method of deriving job competencies, includes a knowledge and understanding dimension but only to the extent that it is related to performance.

5. COMPETENCE AS CURRICULUM

The curriculum implications of the call for a 'new' kind of competence are neither simple or uncontested. This section of the paper attempts to raise some problems with concepts such as 'portability', 'generic skills' and 'recognition of prior learning' which are found in global as well as in South African policy documents. Whilst such terms obviously have enormous appeal on a number of counts, we have not yet begun to explore them in terms of learning or 'aquisition' processes and the pedagogic practices that will facilitate such learning.

In curriculum terms the 'flexible' worker has brought about a shift from context-specific learning to the acquisition of context-disembedded 'core' or 'generic' or 'unspecialised' competencies. (Appendix C gives examples of such competencies.) The assumption is that generic competencies are transferable from one context to another. It is argued that they provide a sound basis for further general or specialised education and training, as well as for re-training.

In their summative (1989) article *'Are cognitive skills context-bound?'*, Perkins and Salomon (1989), review various research studies and thinking about the development of general cognitive skills and the roles of general and context-specific knowledge in thinking.

These writers argue that there are general cognitive skills but that they always function in contextualised ways. The concept of general skills thus operates in association with particular knowledge domains and requirements. The general is both separate and related to the particular.

> General cognitive skills do not function by somehow taking the place of domain-specific knowledge, nor by operating exactly the same way from domain to domain. Rather cognitive skills are general tools in much the same way the human hand is ... General cognitive skills can be thought of as general grippping devices for retrieving and wielding domain-specific knowledge, as hands that need pieces of knowledge to grip and wield and that need to configure to the kind of knowledge in question. (*ibid*: 23)

Their work suggests that one key to transfer is the capacity to manage the movement between the particular and the general and that efforts to cultivate general cognitive skills should focus on bringing together context-specific knowledge with general strategic knowledge (or heuristics).

Other theorists, particularly those looking at literacy acquisition (Gee (1990); Marginson (1994); O' Connor (1994)), are also investigating this contentious issue. These, often complex and nuanced, debates cannot be summarised here. However, they point to the danger of postulating that cognitive skills can be acquired anywhere and in any manner and that they are directly transferable and equivalent. They also show that competence is not a purely factual or technical matter.

Whilst the claims about the necessity of developing flexible and multi-skilled workers work at their best in political, economic and labour market arenas, they do not provide easy guidelines for curriculum. In the industrial relations arena we already hear accusations by workers that what is really required of them is multi-tasking at the same rate of pay, rather than multi-skilling. Many of the current methodologies that identify competencies for various tasks or roles tend to re-inforce such perceptions. They produce lists of technical prescriptions that bear little relation to the complexity of job competence as previously outlined by Mathews and Mansfield.

6. CONCLUSION

This working paper has attempted to raise a number of complex issues as they relate to the worlds of work (or non-work) in the so-called global future. Whilst the emphasis has not been on ETD practitioners, they are , by implication, also workers and managers, albeit with the special function of faciltating learning in others. It therefore stands to reason that the issues identified do not only apply to the people for whom they may facilitate learning, but also to them. Our research needs to provide data that help us to unravel some of these issues if we are to find guidelines to transformative practitioner development.

BIBLIOGRAPHY

Aglietta, M. (1979) *A Theory of Capitalist regulation: The US Experience*, London: Verso.

Ainley, P. (1993) *Class and Skill: Changing Divisions of Knowledge and Labour*, London: Cassell Educational Limited.

Bell, D. (1973) *The Coming of Post-Industrial Society*, New York: Basic Books.

Berger, P. L. (ed) (1964) *The Human Shape of Work*, New York: The MacMillan Company.

Braverman, H. (1974) *Labor and Monopoly Capital*, New York: Monthly Review Press.

Castells, M. (1989) *The Informational City*, Oxford: Basil Blackwell.

Edwards, R. (1993) 'The inevitable future? Post-Fordism in work and learning', in Edwards, R., Sieminski, S. and Zeldin, D. (eds) *Adult Learners, Education and Training*, London and New York: Routledge in association with The Open University.

Foley, G. (1994) 'Adult Education and Capitalist Reorganisation', *Studies in the Education of Adults*, Vol.26, No. 2, pp 121-143, October.

Gee, J. (1990) *Social Linguistics and Literacies: Ideology in Discourses*, Basingstoke: The Falmer Press.

Gee, J. (1994) 'New Alignments and Old Literacies: Critical Literacy, Postmodernism and Fast Capitalism', in O'Connor, P. (ed), *Thinking Work, Volume 1: Theoretical Perspectives on Workers' Literacies*, pp 82-104.

Giddens, A. (1990) *The Consequences of Modernity*, Cambridge: Polity Press.

Gorz, A. (1982) *Farewell to the Working class: an Essay on Post-Industrial Socialism*, London: Pluto Press.

Gorz, A. (1989) *Critique of Economic Reason*, London: Verso.

Gorz, A. (1990) 'The New Agenda' in *New Left Review*, 184.

Hall, S., Held, D. & Mc Grew T (eds) (1992) *Modernity and its Futures*, Cambridge: Polity Press.

Harvey, D. (1989) *The Condition of Postmodernity*, Oxford: Basil Blackwell.

Lane, (1993) 'Vocational Education and Training in Germany', in Edwards, R., Sieminski, S. and Zeldin, D. (eds) *Adult Learners, Education and Training*, London and New York: Routledge in association with The Open University.

Lloyd, C. (1994) *Work Organisation and World Class Management: A Critical Guide,* Johannesburg: Red Earth Publications and SA Labour Bulletin.

Lyotard,, J-F. (1984) *The Postmodern Condition*, Manchester: Manchester University Press.

Mansfield, B. and Mathews, D. (1985) *Job competence: A Description for use in Vocational Education and Training*, Blagdon: Further Education Staff College.

Marginson, S. (1994) 'Transfer of Skills and Knowledge: the key to improving the relationship between education and work, in O'Connor, P. (ed), *Thinking Work, Volume 1: Theoretical Perspectives on Workers' Literacies*, pp 235-256.

Murray, R. (1989) 'Fordism and post-Fordism', in Hall, S. and Jacques, M. (eds) *New Times: The Changing Face of Politics in the 1990s*, London: Lawrence and Wishart, pp 38-53.

O'Connor, P. (1994) 'Workplaces as Sites of Learning', in O'Connor, P. (ed), *Thinking Work, Volume 1: Theoretical Perspectives on Workers' Literacies*, pp 257-295.

Perkins, D. N. and Salomon G. (1989) 'Are Cognitive Skills Context-Bound?', *Educational Researcher*, pp 16-25, January-February.

Peters, T. (1990) *Liberation management: Necessary disorganization for the nanosecond nineties*, New York: Fawcett.

Rosen, M. and Baroudi, J. (1992) 'Computer-based Technology and the Emergence of New

Forms of Managerial Control', in Sturdy, A., Knights, D. and Willmott H. (eds) *Skill and Consent: Contemporary Studies in the Labour Process*, London and New York: Routledge, pp 213-233.

Thompson, P. and McHugh, D. (1990) *Work Organisations*, London: MacMillan.

Touraine, A. (1971) *The Post-Industrial Society*, New York: Random House.

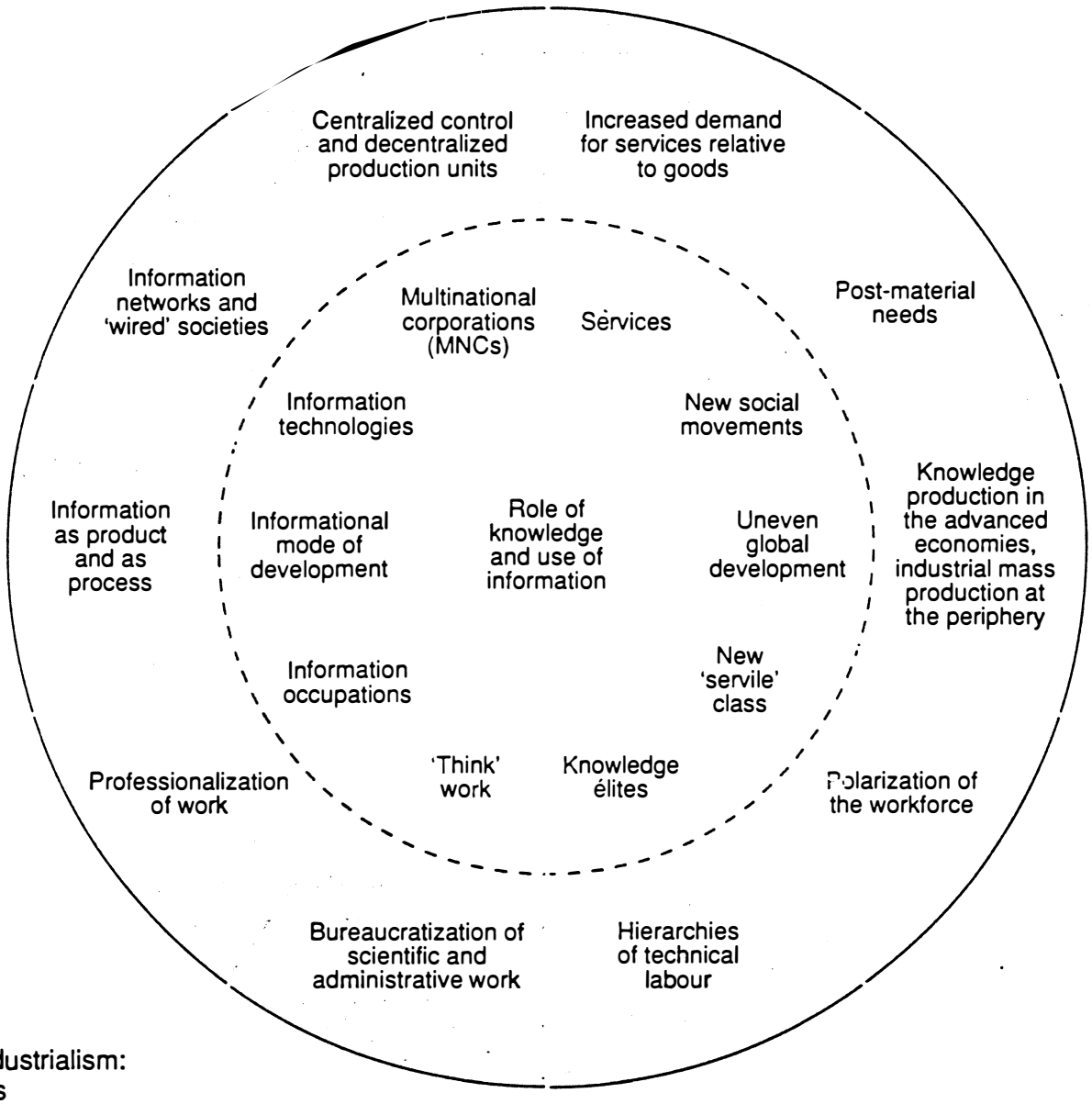

Figure 4.1 Post-industrialism: dynamics and trends

(Hall et al, 1992: 183)

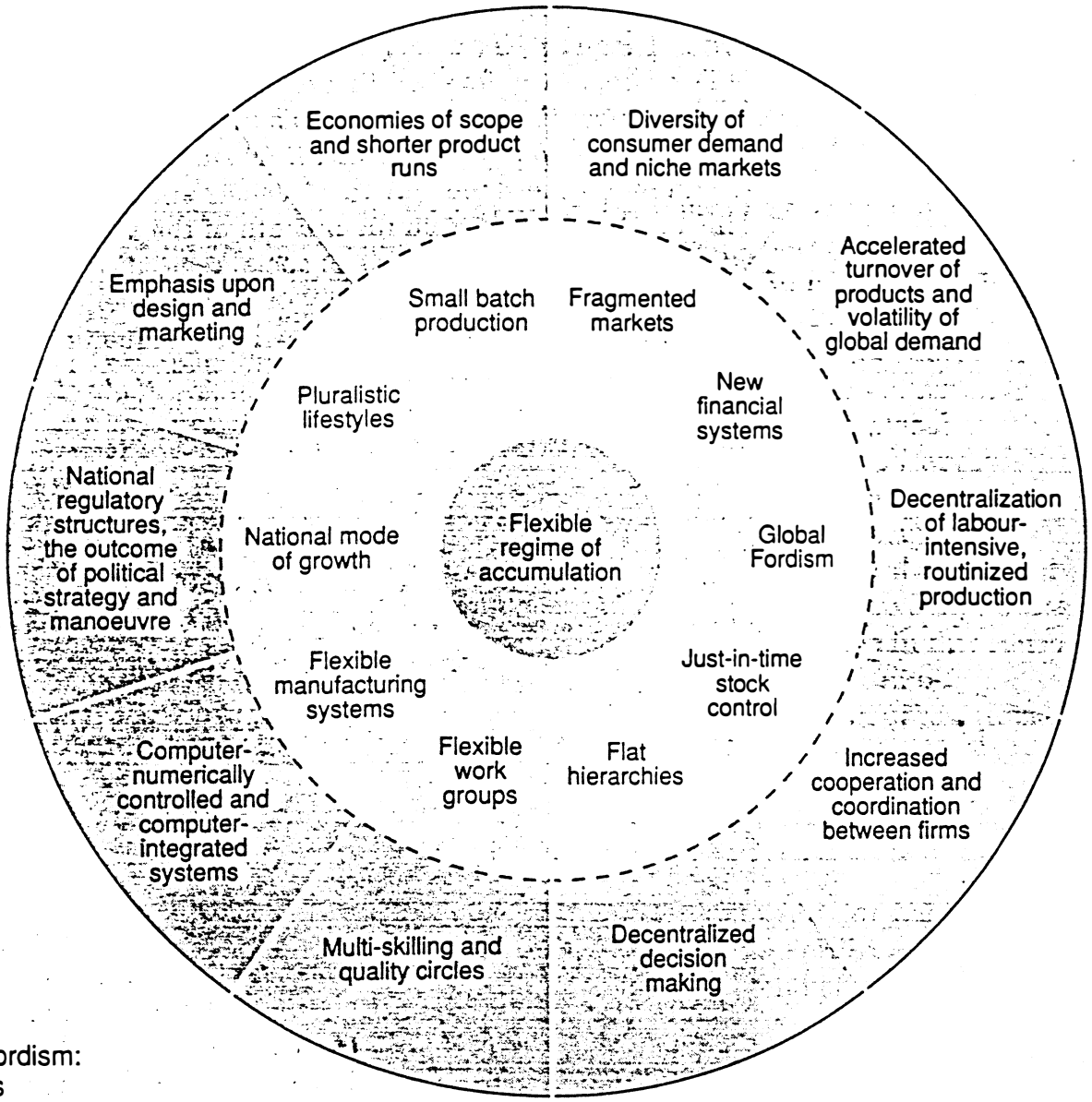

Figure 4.2 After Fordism: dynamics and trends

(Hall et al, 1994: 194)

ABILITIES IDENTIFIED TO BE DEVELOPED ACROSS EDUCATIONAL LEVELS

Township High School District 214
Arlington Heights, IL

Communication
Social interaction
Analysis
Problem-solving
Making value judgments and decisions
Creative expression and response
Civic responsibility
Responsible participation in a global environment
Developing and maintaining wellness
Using technology as a tool for learning
Life and career planning

Macomb Community College
Warren, Michigan

Function effectively in college
Think competently
Employ mathematical knowledge
Write competently
Speak and listen competently
Acquire a global perspective

Alverno College
Milwaukee, Wisconsin

Communication
Analysis
Problem Solving
Valuing
Social Interaction
Global Perspectives
Effective Citizenship
Aesthetic Response

Spalding University
Louisville, Kentucky

Literacy skills
Critical thinking and problem solving
Appropriate mathematical and technological competence
Historical consciousness
Use of scientific methodology and understanding of evolutionary change
Enhanced aesthetic values
Social awareness and personal responsibility for service and the promotion of peace and justice

Purdue School of Pharmacy
Lafayette, Indiana

Conceptual competence
Scientific comprehension
Mathematical competence
Integrative competence
Critical thinking and decision-making abilities
Communication abilities
Responsible use of values and ethical principles
Social awareness and social responsibility
Self-learning abilities and habits
Social interaction and citizenship

University of Wisconsin-Madison
School of Medicine

Analysis
Appraisal
Communications
Interpersonal skills
Self and peer assessment
Self-directed learning
Handling of stress
Completion of tasks
Use of valuing and ethical considerations in decision making

University of Wisconsin-Madison
Department of Kinesiology
Physical Therapy Program

Commitment to learning
Interpersonal skills
Communication skills
Effective use of time and resources
Use of constructive feedback
Problem-solving
Professionalism
Responsibility
Critical thinking
Stress management

American Bar Association

Fundamental Lawyering Skills

Problem solving
Legal analysis and reasoning
Legal research
Factual investigation
Communication
Counseling
Negotiation
Litigation and alternative dispute-resolution procedures
Organization and management of legal work
Recognizing and resolving ethical dilemmas

Fundamental values of the profession

Provision of competent representation
Striving to promote justice, fairness, and morality
Striving to improve the profession
Professional self-development

American Association of Colleges of Pharmacy

Thinking and problem solving
Communication abilities
Responsible use of values and personal awareness
Social responsibility and citizenship
Self-learning abilities and habits
Social interaction

National Board of Medical Examiners (for Comprehensive Qualifying Exam)

Knowledge and understanding
Problem solving and judgment
Technical skills
Interpersonal skills
Work habits and attitudes

America 2000: An Educational Strategy

National Goal 5: By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Objective 5: The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially.

National Curriculum Council of the United Kingdom

Communication
Problem solving
Personal skills: self assessment, management of own learning, teamwork
Numeracy
Information technology

Alverno