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Three logics connecting school and work:

- should learning be useful, correct or meaningful?

Abstract

The aim of this article is to discuss three different logics of interplay between learning in school and learning in the workplace - and its problems. Learners, schools and workplaces have different criteria for linking the two learning environments. Since viable interplay can not be established based on one rationale alone, the papers discusses different institutional framework to mediate between them.

Introduction

In the vocational training and educations all three players, the school, the workplace and the employee expect education and work to be linked. The central aim of vocational schools is to prepare the students for those tasks that they will later encounter in their work. The businesses expect external training and education to support their aims: organisational development, improvement of efficiency etc. Finally, the students expect to be able to use school learning in their working life. However, despite many efforts to improve the interplay, all three players frequently indicate that it does not work. Viewed from a historical perspective, work and education have become increasingly distanced from each other. An example of this is the Danish vocational education that has developed from apprenticeships, where training was entirely integrated in the craft work, to the increasingly school-based educations of today. Viewed from a biographical perspective, this separation manifests itself by the fact that the new generations spend an increasing number of years in the educational system before entering the labour market.

In the first part of this article, I am going to point out some of the reasons for the separation between education and work. Moreover, I shall illuminate some of the changes in the life

courses in late modern society that contribute to complicate the interplay. An important assumption here is that the connection between work and education may not be understood without considering the learner as an active creator of the interplay.

In the second part I will discuss how the three rationales can be combined and on what terms. The institutional framework in different countries assigns the state, the market or the labour market organisations the role of directing the interplay. I will point to some of their advantages and disadvantages and point to the possibilities of the Dual System of vocational education to promote a high skills model of interplay.

Separation of education from work – the school rationale

An increasing number of jobs require formal education, and an increasing number of formerly unskilled work areas are now covered by education. Much of the acquisition of skills that previously took place through training in the workplace, has been transferred to the educational system, which has been subjected to a huge expansion in the past fifty years. At the same time theoretical knowledge becomes increasingly more important within the educations. This is also the case in vocational educations, where growing emphasis is given to the theoretical knowledge in comparison with practical training, and where general school subjects are becoming increasingly important. Historically, education has become separated from the work and has gained an autonomous status. In view of the current interest in learning at the workplace, one might well ask the reason for this separation. The sociology of education offers various explanations for this.

The most common explanation is that production and work have become more abstract and knowledge intensive, and thus have increased the requirements for skills. At the same time, the development within the businesses – such as efficiency improvement, quality requirements and technological development – has meant that the businesses are unable to offer sufficient learning opportunities to fulfil their requirements. However, this alone cannot account for the huge increase in education (Archer 1982). Over and above the growing qualification requirements of work, the following three reasons are given for the growth of the school system:

- General education becomes more necessary for socialization and development of citizenship in a modern and complex society.
- Education legitimises differences of social status and forms the basis for a new social elite.
- Education is used for identity searching and self-realisation.

Firstly, the aim of vocational education is not only to educate people for the labour market, but also to turn citizens into active participants in a democratic community with all that this entails. This very wish for democratisation and social equalisation has been the central argument of the labour movement to expand the extent of general education in the vocational education and training. In a more general vernacular, it could be said that the educational system has to fill in an ever-expanding gap between people who are born with the same biological aptitudes today as in the Stone Age, but who now need to be integrated into a far more complex society. The educations contribute to the citizens' general socialization – a process that becomes ever more extensive the further becomes complex and the more society becomes changeable. Education has through history often been seen as a means to reduce social tensions. It was for example from the very beginning one of the intentions behind the spread of vocational education in Germany to counteract social discontent (Greinert 1999). It is also worth mentioning that one function of education has been to keep the workforce fit and reduce tensions (and unpleasant statistical figures) during periods of high unemployment. Consequently, the purpose of vocational training and education has been much else than to learn something that was to be used in a particular job afterwards.

Secondly, education partly became an aim in its own right, when, historically, the educational system became accessible for a broader section of the population and became a yardstick for obtaining social status and gain access to trades and professions (Archer 1982). Parts of the society elite were able to build its position through education and to establish a *meritocracy* (Young 1958) or *state nobility* (Bourdieu 1996). Since education is based on the ideas that opportunities are equal for all and social rise is the result of aptitude and industriousness, education becomes a more legitimate reason for social inequalities than possessions, inheritance and family relations. Viewed from this perspective, education is not principally about learning something to be used in working life, but about acquiring a certain social position.

Thirdly, education gains an important role in the search processes and in the formation of identities in modern societies where life paths and identities have become more open and undetermined. This is especially valid for young people, though it is also valid for those older people, who get a 'second chance' by means of education. Hence, it is not so much the interplay between education and a specific occupation that is in focus, but rather education as a space for personal development – what Anthony Giddens (1991) terms '*the reflexive project of the self*'.

I would like to use these causes for the expansion of formal education – to mention but a few – to point out that vocational education and training has obtained many other intended and

unintended functions than to qualify for a specific job or occupation. The educational system has during this process cultivated its own rationale and forms of knowledge. The separation of education from production means that different kinds of knowledge are valued in schools and in businesses. The central criterion for the validity of knowledge in the workplace is its practical usefulness, whereas in school it is the correctness of knowledge according to the established, often scientific, theories.

The school rationale is founded on the propagation of accumulated knowledge that is institutionalised in a symbolic (mainly linguistic) form. This is primarily achieved by teaching theoretically based and subject divided knowledge. Learning in schools is mainly evaluated at single subject examinations according to the internal criteria of the school system, its teachers, curricula, textbooks and theories. Basically at school, one qualifies to move up one level within the school system. This school rationale is reinforced by the educational system being subjected to output management, where the result of the schools is assessed and resources are allocated according to the number of courses completed and examinations passed.

The formal aim of school is for the students to learn something they can apply to life 'outside' the school – be it the labour market, society or the personal life of the student. However, the immediate aim of both students and teachers usually becomes passing the next test or examination. The learning process becomes directed at the school system itself and not at the world outside and the time after passing the final test.

Separation of production from society – the production rationale

The separation of school from workplace is not only caused by the educational system having asserted its autonomy and its own rationale. The businesses have likewise developed a production rationale based on the logic of the market economy and severed the links to the rest of society. Market forces have spurred a fast technical and organisational development, which means that in many areas the employees are able to learn much more at work than used to be the case. Yet, in other areas they can learn less than previously of what is required in order to get on in society and on the labour market at large. In general, the gap is widening between the many skills that the businesses expect from the employees and those skills that the employees are able to develop at work. This is particularly true with respect to general qualifications. That is one reason why, historically, learning outside the workplace has grown still more important.

Simply put, it could be ventured that, historically, goods production has developed from being integrated in a local community to becoming still more integrated into a global market. This affects the nature of the work as well as the learning environment in the workplace. One result of this is that work has lost some of its formative elements (Sennett 1998). In other words, work does not contribute as much to social and cultural integration into society. It is a result of the ongoing rationalisation of production according to market economical principles, the professionalisation of managements and the introduction worldwide of standard management concepts. This development has contributed to severing the businesses' former links to the local community and the norms and cultures of civil society.

An example of this can be found in the development of the baking industry, which I have previously analysed (Jørgensen 1999). In the past fifty years, it has developed from a craft production for a local market to an industrial mass production aimed at a national and now even an international market. When it was a trade production, suppliers, customers and employees all belonged to the same local community. The workplace was woven into the social network of the local community, and bread baking was part of a social and cultural practice that was passed down through learning in the workplace. Being apprenticed as a baker not only entailed learning the skills of the trade, but also to be included in a committing and meaningful kinship with a clearly defined professional identity and with shared values and norms.

In the modern, standardised industrial production, unskilled workers have replaced most of the skilled bakers and work in bread factories has become devoid of content and autonomy. Hence, the bread factory is unable to carry out training of skilled bakers, and a new industrial education that qualifies the unskilled workers to carry out the new tasks involved with the present automated production has not been launched. The factory offers few learning opportunities for either technical skills or for the social and cultural integration into the community. For instance, a group of Turkish immigrants hardly spoke any Danish at all despite having worked for 25 years in the Danish bread industry.

The development of the bread production is not representative of the historic development of all kind of work, though it does contain some traits typical of industrial work that are still valid for many employees with little or no education. The production has been subjected to the principles of industrial mass production (Taylorism), and the workers with their social and cultural characteristics have been reduced to an impersonal workforce. Due to the demand for a more flexible production, a more delegating and implicating form of management is now gradually replacing this type of management.

There used to be great expectations that the transition to a modern, flexible quality production would enrich the learning environment and return to the work some of its educating elements (Kern & Schumann 1984) – and indeed, some of its formative elements. There are areas where this happens, but also tendencies that point in the opposite direction. Richard Sennett (1998) describes how the operators in a modern automated bakery have been given new tasks with control and monitoring, but at the same time, they have lost contact with the customers, the raw materials, the dough – and each other. He concludes that flexible production undermines trade pride and the solidarity of the kinships in the workplace. Such examples indicate that the development of workplaces as learning environments is ambiguous.

Concurrently increased individualisation takes place among the employees, and the traditional communities and trade political groupings in the workplace are weakened. The communities of the working class movement have – particularly for those with little or no education – been a framework connecting local everyday experiences in the workplace to the conditions of society at large. In this manner, the workplace also contributed to providing the workers with political understanding and developing an identity as citizens. But with the deterioration of the traditional groupings and the separation of the businesses from the local community, this formative element in the learning environment of the workplace is also weakened. Instead the cultivation of the production rationale in the workplace means that training and education is linked more closely to the demand for economic efficiency. The main criterion is that learning should be useful for carrying out production in relation to the strategic plans of management.

Separation of personal life from working life – the subjective rationale

Above, I have argued that education and production have become separated from society at large, and have gained autonomy as a production system and an educational system with each their own rationale. This can explain part of the problem concerning the lack of interplay between learning in formal education and learning in the workplace. However, the systems are one aspect; another is the persons whose learning processes must connect the two learning environments. This presupposes that it is possible from a subjective perspective to create some kind of meaningful whole out of these two systems. Such a connection used to be straightforward, since a particular vocational education – for the minority who took it – led to a certain type of work and a recognised position, and thus a predictable life course. However, this pre-determined connection is disintegrating under the new flexible capitalism and the dissolution of the traditional life courses.

From a historical perspective, personal life has become separated from work in various ways. Youth has been prolonged as a phase of life, and most people do not encounter working life until later in life. Simultaneously an increasing number of people have the opportunity for an independent phase of life following their working life. Add to this, that the daily working hours are shorter and the material and cultural opportunities for an independent life outwith working life have increased. For the majority by far, the biographical perspective has changed in recent generations. The fate-determined life perspective inherent in traditional working class culture is replaced by a more open, individual and self-determined perspective.

The choice of career and education today is not so much made because of social and economic necessity but rather as part of reflexive self-determination. This is not only connected with material welfare but also with what is known as 'cultural emancipation', which entails that handed down traditions, values and perceptions lose their compulsory power (Ziehe 1991). To a much larger extent, life courses and identities appear malleable and changeable. One reason for this is that today, one's life conditions change more radically through the course of life, which necessitates a continuous revision of one's identity. Concurrently with this, modern society provides an extensive range of knowledge, perceptions and identity figures through media and education, by which the individual is able to observe, assess and develop him or herself.

Hence, interplay between education and work as seen from a biographical perspective has been changed. Still more people are actively seeking to shape their own lives and realise their dreams by seeking new educations and jobs. The idea of lifelong learning plays an important part in this process. Education is no longer a completed phase in youth, but is becoming a recurrent activity throughout the life course. This development looks different for the well educated and those with short or no educations, and it contains conflicting aspects for the individual.

On the one hand, the cultural modernisation entails emancipation from the authorities and social conditions that previously confronted the individual as a given fate. On the other hand, it also makes demands of the individual to justify his or her identity and take responsibility for his or her life project in the assumption that it could be different. Yet, the increased awareness of other options in life is not necessarily countered by a corresponding increase in opportunities for realising alternative designs for life. The social and material opportunities differ according to which social layer one belongs to. This creates increased tension between, on the one hand, the many challenges to pursue individual plans and dreams, and on the other, the limited realistic opportunities experienced in particular by people with short or no educations.

Such tension and insecurity about modern life conditions spark off defensive attempts to preserve traditional values (e.g. gender roles and national identity) as well as a progressive search for new values and meaning in life. Education and work are important spheres for such search processes and designs for life projects. For an increasing number of people, career plans and forward looking ideas about what to do in life constitute a large part of their self-awareness. They make their own life project the turning point of interplay between education and work. However, this is by no means the case for everyone. There is still a large group of people with little or no education who are not focusing upon education and individual career, and who primarily subscribe to a defensive life perspective. It could well be relevant to mention both limiting and developing interplay between education and work. Many people with little or no education come from homes where education is not the order of the day, and so they do not do particularly well at school and they have what can be termed an instrumental view on education. They will not apply for jobs that require formal education and when employed they are not offered opportunities for learning or supplementary education. Such self-increasing interplay between education and work contributes to keeping them on a life course where they are cut off from the choices to be found in the well-educated part of the population. (Jørgensen 2001).

Conversely, educated people often encounter a developing kind of interplay between education and work. Longer educations frequently give access to jobs with challenges and good learning opportunities. Once a strong vocational or professional identity has been established during the basic education, it often stimulates an interest in keeping up-to-date through continuous supplementary education, or to further one's education after some years of practical work experience. Modern life courses show more complex patterns as they combine work and education to promote both vertical ascent on the labour market and horizontal changes to new sectors or work areas. According to the subjective rationale the interplay between work and education is formed in relation to what appears meaningful in relation to the individual life project.

How to combine the three rationales

Three different players and three rationales in the interplay between work and education have been outlined above. The guiding line of the interplay may be based on each of those players and rationales, i.e. the school, the business and the learner. The interplay may take place according to a school rationale based on the application of 'correct' theoretical knowledge, a

production rationale, based on the needs for useful skills in the workplace, or a subjective rationale based on what is meaningful and interesting to the individual. All of those rationales are simultaneously present when educational institutions, business' and employees are working together to develop skills. But the three rationales are not always concordant. Theoretical knowledge offered by the school might for example neither be useful in the workplace or meaningful for the employee. So the question is how educational policy can contribute to an interplay that is consistent with all three rationales?

In recent years, educational policies in Denmark and other countries have been distinguished by three trends pulling in separate directions. They turn the school, the labour market (the business) and the individual student respectively into the focal point for education – and thus for the interplay. I shall elaborate on that.

Traditionally, attempts to improve the interplay have been based on the educations. The conception was that learning was a result of teaching and education. Hence, the problem was defined as one of applying the acquired school knowledge to practical work in the workplace where it was to be used, and where routine and experience was to be achieved. This problem of 'transfer' was primarily left up to the individual student and workplace.

A tendency to strengthen the school rationale is caused by what can be termed the *academisation* of the educations and the professionalisation of work. Most vocational educations and professions have an inherent friction between practical skills and theoretical knowledge. Practical skills build on work experience, know-how, flairs and routines, all of which are indispensable in order to carry out normal tasks in an efficient manner. Theoretical knowledge is tied to the teaching subjects, and are based on scientific theories relating to the profession and its disciplines.

The status of a trade or profession depends, among other things, on the strength of its theoretical foundation and the length of its corresponding formal education. This has led to the trade and professional organisations in particular attempting to heighten the status of the profession through lengthening especially the school part of the education and adding to the theoretical contents of the education. This has been part of an attempted professionalisation, which aims at improving control with the field of work, and heightening the recognition of the profession and increasing the salaries. An unintended consequence of this is a strengthening of the school rationale within the educations.

This development is reinforced by the wish of educational policy to secure opportunities for further education at all levels. Included in this is an emphasis on general qualifications and

study introductory contents, in other words an increased emphasis is to be given to school subjects rather than vocational subjects. The cumulative consequence is thus that the school rationale has been given increased emphasis at the educations and so interplay must largely take place according to the philosophy of the school and the values of formal education.

This development trend has been challenged by a second and opposite trend that emphasises the practical applicability of the educations on the labour market. One cause for this trend is the political demand for a stronger labour market focus of the educations, which entails that educations must be based more on the requirements of the businesses. In the educational system a pedagogical interest has developed for *situated learning* and *workplace learning*. Inherent in this is a criticism of school-based learning of general and theoretical knowledge, and an emphasis on the workplace as a learning arena (Lave & Wenger 1991). Supporters of this school of thought propose that interplay must build on the learning that takes place in the workplace and must be based on the skills requirements of the businesses. This could be beneficial for those with little or no education who are not inclined towards formal education, but who find it important to learn things that are relevant to their work.

The snag with this school of thought is that it does not allow for the fact that the acquired skills may not necessarily lead to acknowledged competencies valued by the labour market. Also, such training may not be perceived to be personally relevant, if it is seen from a narrow business horizon with which the employee may not identify. When businesses focus narrowly on learning in the workplace, it may lead to the practical skills acquired in the workplace becoming disjointed from theoretical knowledge. Moreover, it could lead to part of the workforce, i.e. those with little or no education, obtaining only limited skills aimed at carrying out specific tasks.

Moreover, not counting the largest companies, the demands of the businesses are typically short-term and confined. Only a minority of small and middle-sized businesses have the resources and the competences – or realistic opportunities – to analyse their future requirements. Leaving vocational training and education in the hands of the businesses means that they will at best get the supply of skills they have already discovered a need for. They will not obtain proactive impulses and new skills from the education system. Therefore, a singular focus on the requirements of the businesses is a problematic foundation for the interplay between work and education.

A third trend is making its mark on the education system, that of individualisation. This entails that training and education are centred on personal motivation and individual learning and development requirements. It is a general trend attributable to the continuing individualisation and differentiation among students as well as the students' expectations that the teaching should be personally relevant. This mirrors the increased reflexivity of students who will not accept tuition that is merely justified by being relevant to the curriculum or relevant to the businesses.

In addition, the trend of individualisation is caused by an education-political wish for an increase in flexibility, a larger completion rate, fewer students dropping out and fewer students switching to other educations. Such aims are expected to be attainable by providing better opportunities for the students to put together an education according to individual wishes and requirements. Hence, the educations are composed according to principles of modularising, flexible entry and leaving opportunities, appreciation of prior learning and amenable opportunities for combining and putting together various subjects and contents. The focus on the interests of the individual student could be positive from a learning perspective in that it could ensure motivation and interest in the tuition. However, it may deflate the social learning environment at the educations, when each student follows his or her individual course of learning. Moreover it places the student in a role of consumer, whose taste and spontaneous needs direct the educational activities. This might very well neither be what is necessary to learn according to the school or to business.

So each of the three tendencies in educational policy seem unable to combine the three rationales mentioned earlier in a fruitful way. I will therefore take a look at the significance of the institutional framework for the interplay between education and work.

The institutional framework for the interplay between work and education

When comparing the educational systems of different countries three regulatory regimes for vocational educations can be identified i.e. *state*, *market* and *vocations (trades or professions)* (Greinert 1999). In order to illustrate those principles at work, one can point to France (*state*), Great Britain (*market*) and Germany (*vocations/trades*) as examples – although in practice, the principles will always be a mixture to some extent. Denmark comes closest to the German model, which is also described as *neo-corporatist* form of regulation (Streeck 1992).

A strong state-governed education system leaves plenty of room for the school rationale to develop because the link to the requirements of the labour market is weak. It promotes a strongly hierarchical educational system that places greater importance to titles and degrees than to actual skills – like in the French system (Maurice et al. 1986; Bourdieu 1996).

In educations regulated by the market, both the production rationale and the subjective rationale are free to unfold, since it is the demands of the businesses and the students that control the supply of education. This tends to create a highly divided (segmented) labour market because the skill profiles of the employees become more diverse than in a system, where the state or the labour market organisations define the content and levels of vocational educations. Moreover, it creates a more polarised labour market, partly because the businesses are more interested in offering education to those who already hold good educations, and partly because the individual demand for education is correspondingly higher among the well educated (Lauder 2001). In this manner, the market regulation contributes to preserving or increasing social inequalities (Finegold & Soskice 1990).

In a Dual System of vocational educations like the German model, the state on the one hand leaves part of the control of the educations to the labour market organisations. The individual business' and student/employee on the other delegate some of the handling of their interests to the labour market organisations, who on an aggregate level and in a more proactive way can coordinate the diverse social interests. This means that all three players mentioned above have influence on and responsibility for the educations that are managed with more consensus than is the case in a market model (Green & Sakamoto 2001). This institutional framework creates opportunities for all three rationales to enter into interplay that transcends the limits of each one on their own.

The basic form of education in this model is the 3 – 4 year long apprenticeship where normally three days are spent on training in the enterprise and two days are spent in a vocational school. Today still more than of all young people in Germany undergo this kind of vocational education. Several comparative studies (Greinert 1999; Lutz 1976; Maurice et al. 1986; Lane 1993; Campbell a.o. 1989) point out that these educations contribute to creating more integrated job profiles with a large degree of autonomy for the worker. It thereby contributes to a less hierarchical organisation of the work with a more flexible deployment of workers to different tasks than vocational educations that are either entirely managed by the state or by the businesses (Sengenberger 1990).

The way, in which the dual education combines practical and theoretical knowledge, enables the skilled worker to combine planning and developmental work with production work. It is

precisely the close communication between the production and development departments that enables the businesses to be innovative. The practical skills obtained in the workplace training also includes social and personal skills that become increasingly important in the new and more autonomous forms of work organisation such as group-organised production. By participating in practical work in the workplace, the apprentices are socialised to work life and can acquire a vocational/professional identity and self-worth (Brown 1999).

The dual vocational educations thus provide a framework for combining the three rationales in the interplay outlined above. The school rationale, in that the educations ensure a thorough, theoretical knowledge; the production rationale in that the educations promote a high skills flexible quality production (Lauder 2001; Streeck 1991); and the subjective rationale as it offers opportunities for developing a strong professional identity and belonging to a professional or vocational community.

In spite of these advantages these vocational educations have been in crisis for a number of years in Denmark and Germany. This owes both to a lack of openings for practical training places in the workplaces and to their loss of status in relation to general education in colleges. The principle of vocation ('Beruf') is also criticised for being obsolete and inflexible in a time when businesses introduce new technologies and new forms of organisation. The vocations/trades retain a built-in conservatism both because they constitute a historically passed down structure, and because they are linked to the given equilibrium of power between trade unions, employer federations and state institutions. The question has also been raised, whether the type of learning tradition, imitation, that is common in the workplace is appropriate to promote qualities such as creativity and innovation.

There are good reasons, therefore, for considering how the dual vocational educations may be modernised – without being subjected to either a school rationale, adapting them to the comprehensive school model, or a market rationale that submits them to the short-term requirements of the individual business or student.

Bibliography

- Archer, Margaret S. (ed.) (1982): *The sociology of educational expansion: take-off, growth and inflation in educational systems*. Beverly Hills: Sage.
- Bourdieu, Pierre (1996): *The state nobility : elite schools in the field of power*, Cambridge : Polity Press.
- Brown, Alan (1999): Reflections on the process of becoming skilled in England, Germany and the Netherlands. *Paper for TSER-forum*. Warwick: Institute for Employment Research.
- Campbell, A & W. Currie & M. Warner. (1989): Innovation, skills and training. Micro-electronics and Manpower in the UK and West Germany. I: Zeitlin og Hirst: *Reversing industrial decline*. Berg, St.Martins Press.

- Finegold, David & David Soskice (1990): The failure of training in Britain: analysis and prescription, in Denis Gleeson (ed) *Training and its alternatives*, Open University Press, Philadelphia.
- Giddens, Anthony (1991): *Modernity and self-identity*. Polity Press.
- Green, Andy & Akiko Sakamoto (2001): Models of high skills in national competition strategies, in Phillip Brown & Andy Green & Hugh Lauder: *Globalisation, competitiveness and skill formation*, Oxford University Press, Oxford
- Greinert, Wolf-Dietrich (1999): *Berufsqualifizierung und dritte industrielle Revolution: eine historisch-vergleichende Studie zur Entwicklung der klassischen Ausbildungssysteme*, Baden-Baden: Nomos-Verlags-Gesellschaft.
- Jørgensen, Christian Helms (1999): *Fremtidens Bageri - inddragelse af medarbejderne gennem uddannelse ("The bakery of the future – Involving the employees through education")*. Roskilde: Roskilde University.
- Jørgensen, Christian Helms (2001): Better jobs through training and education, in Jefferys, Steve; Beyer, Frederik Mispelblom; Thörnqvist, Christer (eds.) *European working lives: continuities and change in management and industrial relations in France, Scandinavia, and the UK*, Northampton, Mass., Edward Elgar.
- Kern, Horst & Schumann, Michael (1984): *Das Ende der Arbeitsteilung?* München: Verlag C H Beck.
- Lane, Christel (1993): Vocational training and new production concepts in Germany - some lessons for Britain, in Richard Edwards, Sandy Sieminski and David Zeldin (Eds): *Adult learners, education and training*. Routledge, London.
- Lauder, Hugh 2001: Innovation, diffusion and social exclusion, in Phillip Brown & Andy Green & Hugh Lauder: *Globalisation, competitiveness and skill formation*, Oxford University Press, Oxford.
- Lave, Jean & Etienne Wenger, 1991: *Situated learning*. Cambridge University Press
- Lutz, Burkhardt (1976): Bildungssystem und Beschäftigungsstruktur in Deutschland und Frankreich. In Hans-Gerhard Mendius (ed.) (1976): *Betrieb, Arbeitsmarkt – Qualifikation 1*, Frankfurt am Main: Aspekte.
- Maurice, Marc, Sellier, Francois & Silvestre, Jean-Jacques (1986): *The social foundation of industrial power*. Cambridge, Massachusetts: The MIT Press.
- Sengenberger, Werner 1990: Flexibility in the labour market - internal versus external adjustment in international comparison, in Appelbaum & Schetkatt (Eds): *Labor market adjustment to structural change and technological progress*. Praeger : New York.
- Sennett, Richard (1998): *The corrosion of character : the personal consequences of work in the new capitalism*, New York : Norton.
- Young, Michael (1958): *The rise of the meritocracy 1870-2033: an essay on education and equality*. London: Thames & Hudson.
- Streeck, Wolfgang (1991): On the institutional conditions of diversified quality production. In Matzner, Egon & Wolfgang Streeck (eds): *Beyond Keynesianism – the socio-economics of production and full employment*. Edward Elgar, Aldershot.
- Streeck, Wolfgang (1992): *Social institutions and economic performance : studies of industrial relations in advanced capitalist economies*, London : Sage.
- Ziehe, Thomas (1991): *Zeitvergleiche : Jugend in kulturellen Modernisierungen*, Weinheim : Juventa.