WORKPLACE LEARNING AS AN INVESTMENT IN HUMAN CAPITAL

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Abstract: The paper considers, on the basis of the theory of human capital, in what sense the various agents involved in work-based learning perceive the on-the-job learning period in vocational upper secondary education as an investment-like activity driven by expectations of long-term benefits held by individuals, enterprises and society. The focus of the paper is an empirical survey of Finnish students, teachers, company managers and workplace trainers participated in a work-based learning pilot project. Students believe that their stay in working life improves their employment prospects, enterprises do not incur any additional costs, and workplace trainers and teachers are coping with their changing duties and roles.

INTRODUCTION

The European Union comprises 15 countries representing the Western industrialised nations and the global economy. There are efforts to free up and promote competition in Europe and globally in all sectors of the economy, the aim being, for example, efficient use of resources and increased productivity of work. Increasingly, the relevant criteria are being set, apart from individual states, by such international organisations as the Organisation for Economic Co-Operation and Development (OECD) but also by multinational corporations and their owners, the big investors, the primary beneficiaries of freeing up trade. More and more, states, national economies, enterprises and individuals are being divided, on the basis of how much they are able to enhance their competitiveness, even at each others’ expense, into those who are doing well and those who are being marginalised. Enterprises are similarly seeing individuals increasingly in terms of investment: engaging an employee on a permanent basis is profitable only if the short- or long-term benefits clearly exceed the salaries paid to them or other equivalent costs. An individual can raise their value on the labour market by investing in characteristics considered important by employers, in practice by taking high-status qualifications and acquiring work experience.

This description is underpinned by the theory of human capital. According to Asplund (1996), human-related capital covers the individual’s all knowledge and skills, whether inborn or acquired, as well as, defined more broadly, also such things as investments linked with the individual’s own health and quality of life, that is, everything that affects the individual’s participation in productive activity. As its name indicates, human capital has human qualities. In other words, it can increase or diminish, grow old, leave an enterprise, locality or country with its owner. In neoclassical economic theory, capital is something that yields a profit; its value is not determined by production costs or by the amount of societal work that has gone into it but by the amount of profit it brings. Capital is always effective only for a limited period of time, which means that profit must be made in a relatively short term.

The earned income of more highly educated people is substantially higher than that of less educated people (Jäntti, Kirjavainen and Loikkanen, 2000). However, differences between educational attainment alone do not tell us why people with different levels of educational
attainment earn different incomes. The traditional starting point is that the worker’s productivity increases with education. Higher education equals higher productivity. In this sense education is an intangible production factor. Education is discussed as an investment of immaterial or intellectual capital. A second explanation for such differences is provided by what is known as the signalling hypothesis, according to which wage differentials reflect social selection. Education is how the worker signals their own abilities to a potential employer. Education requires the same qualities as those demanded by the future employer from their employees, such as talent and perseverance. In other words, education functions as a kind of hiring test but does not necessarily promote productivity or accumulate any intangible capital.

Traditionally human capital has been defined, like other kinds of capital, in terms of the amount of monetary profit yielded when it is invested that is, as the return manifested as higher salaries on the individual level, bigger future profits on the enterprise level, and increased gross national product and enhanced competitiveness on the societal level. Thus, the theory of human capital expands the concept of physical capital to also cover the human means of production (Vahervä & Juva, 1985). However, the human capital that the individual accumulates through education and training also involves other than salary-related effects, such as higher social status, increased mental well-being, increasingly meaningful tasks or access to a more pleasant occupational environment (Asplund 1996; Ertola & Väisänen 1997). Westphalen (1999, p. 10) defines human capital as “knowledge, skills, competencies and other attributes embodied in individuals or groups of individuals acquired during their life and used to produce goods, services or ideas in market circumstances.” In this context it is advisable to note that an individual’s qualities are in the use of the labour market, but calculating and reporting on human capital is limited to the enterprise level. This paradox is caused by the fact that the acquisition and identification of an individual’s knowledge, skills and qualifications are not necessarily only linked with outputs which human capital often refers to. Human capital is considered a concept of economics while the acquisition of knowledge, skills and qualifications are seen as the preserve of education, sociology and psychology. However, human capital cannot be a purely economic phenomenon.

The current vocational education systems in many countries rather emphasize contextual learning methods than abstract ones. Workplace learning programmes are designed to situate learning in the workplace so as to provide students with contextual, meaningful and relevant use of knowledge. Learning may occur in a community of experienced practitioners in an efforts to situate learning in the context of its utilization. This paper describes the results of a case study on the Finnish experiment of workplace learning in initial vocational education titled Bridge from Vocational Education to Working Life (2+1 experiment).

We propose to describe work-based learning as the individual’s, enterprise’s and society’s human capital investments. We shall draw on four sets of materials from an empirical survey to give preliminary answers to the question of what kind of investment-like features workplace learners, managers of workplaces and workplace trainers, and vocational teachers discern in work-based learning.

WORK-BASED LEARNING AS EDUCATIONAL INVESTMENT

In Finland, arguments for increasing the workplace learning component in education have been based among other things on a desire to increase the efficiency of vocational education and improve students’ occupational skill. In addition, research has revealed that skills are acquired more effectively in the context of work than through school-based studying. Educational establishments, enterprises and society all wish to increase the work-based learning component of vocational education and training because formal education has been found to be increasingly out of touch with the everyday reality of the workplace. Teachers may wish to promote work-based learning
because organising it creates new links with enterprises and at the same time provides teachers with opportunities for updating also their own occupational competencies (Kulmala 1998; Lasonen, 1999; 2000). Workplaces offer students authentic, challenging and even conflicting learning situations impossible to imitate at school. Enterprises need to be able to recruit particularly floor-level workers as cheaply as possible but also safely. From the perspective of society it seems important to create, as a kind of automaton of economic growth, a system of lifelong learning with a well-functioning alternation between work and education, and an expansion of work-based learning offers good opportunities for running such a model in.

The oldest form of vocational preparation, the master-and-apprentice system, is probably the best representative of systematic work-based learning or learning on the job, and today apprenticeship training continues the tradition. Naturally, similar (non-formal) work-based learning takes place all the time also as employees perform authentic tasks at the workplace. Even in formal education, work practice has been an important aspect of many vocational qualifications. However, work-based learning is new as a term - in Finland it appeared only in the middle of the 1990s. It refers to goal-directed and supervised studying at a workplace amounting to at least 20 credits (formally equivalent to a week’s full-time studies). The aim is that the student will learn a part of the occupational skill required for the vocational qualification in question and of the relevant curriculum objectives at the workplace while also acquiring general readinesses for working life and lifelong learning. Work-based learning is distinguished from earlier work practice not only by the length of the work-based learning period but also by the fact that previously students went to the workplace to practise things that they had learned at school while today they are supposed to learn new things, that is, a part of the contents of their vocational qualification.

RESEARCH PROCEDURES

A consideration of also work-based learning as a form of investment can be justified on the basis of the finding that individuals, enterprises and society as a whole expect their educational activities to yield a return in the long term. As regards enterprises, organising work-based learning placements can be seen as a conscious choice because it is a voluntary one. It is an investment-like decision whose attractiveness, often involving the unpaid contribution of the students, is increased by society’s monetary compensation. For students, by contrast, work-based learning periods are an obligatory extension of their education, which means that in their case the “investment decision” is made simultaneously with the decision to apply for or accept a student place. However, the effects of a work-based learning period are not necessarily always positive from the point of view of society, because students can learn at the workplace also many things that are disadvantageous in educational terms.

The empirical surveys discussed below were administered separately to managers of Finnish enterprises providing work-based learning placements, their workplace trainers, and Finnish vocational students and teachers. The materials had been collected by Johanna Lasonen using questionnaires designed for a follow-up of a Finnish vocational education reform pilot project, the Bridge project (the questionnaires were returned as follows: students 435, teachers 110, workplace trainers 217 and managers 247 questionnaires). It is to be noted here that the questionnaire was designed to cover the targets of the Bridge project as a whole, among which the benefits and disadvantages of work-based learning represented only one subtarget (Lasonen, 1999; 2000).

The target groups of the pilot research consist of students, employers, trainers and teachers who responded to the structured questionnaires. The study aimed to survey to what extend the workplace managers, students, trainers and teachers regard students’ work-based learning and mentoring as investment for human capital.
RESULTS

The Individual’s Perspective on Work-Based Learning. Of the students who answered the questionnaire, a little more boys than girls, a third were under 20 and a third between 20 and 21. Only a good fourth had no earlier education beyond comprehensive school or upper secondary school while the majority had already completed some vocational qualification.

The students were asked why they had taken up studies leading to this particular basic qualification. A good half of them mentioned better employment prospects, nearly the same proportion brought up their interest in the occupational field in question while a good fourth told that they wanted to improve their access to further and higher education. The students thought that their studies had affected their occupational competence, their ability to understand and accept different people, and their employment and career prospects - all obvious individual and societal yields of human capital investments. The strongest negative effects of their education seemed to concern their willingness to set up an enterprise of their own, their financial situation and their ability to find a new occupation as well as their chances of continuing their studies. A poor financial situation is linked with the opportunity costs of human capital investments while the students’ reluctance to become entrepreneurs is probably connected with their increased familiarity, though their studies, with the difficult early stages of and the economic risks involved in entrepreneurship.

Among the study fields covered, the most exceptional were social and health services, where the students rated the effect particularly of their studies on their financial status more negatively, but on such things as occupational skill and self-esteem more positively than did the other students, and business and administration, where the students expressed more positive opinions about the effect of their education on such things as their employment prospects and their willingness to set up an enterprise of their own. By contrast, technology and transport students are more pessimistic about their further and higher education prospects and about continued studies in general.

Guidance was also available at the workplaces because only a good tenth of the students mentioned insufficient guidance as a reason for possible difficulties. Most students singled out practical skills and job-specific skills but also social skills and self-confidence as those things that they had learned particularly well. They thought that during their studies they had gained most as regards initiative, practical skills, cooperation skills and self-confidence, least as regards, for example, the skills needed to conduct business in foreign languages and to set up an enterprise of one’s own, and writing skills. The students’ answers foregrounded practical work experience and improved employment prospects as their best experiences, which thus emerged as the most obvious return to their human capital investment, but some of the respondents also mentioned things related to the social aspects of their training and to learning and personal development.

Managers’ Views of Work-Based Learning. The size of an enterprise seemed to be a factor in attitudes towards future provision of work-based learning: managers of enterprises with a turnover of FIM 1-5 million and with a staff of 3-5 people were more sceptical than the other groups about being able to commit themselves to providing work-based learning also in the future, while the biggest enterprises are, naturally, best able to take on new staff in the next few years. Nearly half the enterprises that answered the questionnaire have had, during the preceding year, only 1 workplace learner, while a little less than a third had had 2-3 students and every seventh enterprise 4-6 students. Among the respondents not quite a tenth represented enterprises with 10 workplace learners.

In a battery of statements about the links between education and working life the workplace managers were asked among other things how much workplace learners add to the costs of the
enterprise: the average of the managers’ answers is among the lowest in the whole question battery, ranging between “a little” and “very little” and indicating that on average the enterprises incur no additional costs because of workplace learners. Managers of small enterprises of 1-2 people (and, on the other hand, with a turnover of FIM 5-10 million) rated the costs relatively higher but still no higher than “a little”. In terms of the enterprises’ line of business, only the public sector deviated from this line by rating the costs, on average, even lower. The economic attractiveness of taking on workplace learners is revealed by a question concerning the drawbacks of cooperating with educational establishments: only 2 per cent of all respondents mentioned cost-related things as drawbacks to cooperation linked with work-based learning.

Among the statements included in the question about the links between education and working life, the most positive responses were elicited by the investment-like statements “I am willing to commit myself to provide work-based learning also in the future in my enterprise” and “I wish to develop cooperation with educational establishments and organise students’ work-based learning”. As for the practical promotion of an improved fit between education and working life, offering students a workplace learning placement and training oneself were the methods mentioned most often by the managers.

The managers assessed the effect of different factors on their selection of new employees on a four-step scale. The averages indicate that the respondents lay the greatest stress on the employee’s positive attitude and initiative and on their personal qualities in general. They pay least attention to the job applicant’s sex and language skills and their possession of an extended qualification. As regards the distinct broader components of human capital included in the list, on average the managers considered previous work experience fairly important, as they did the possession of a relevant vocational qualification. Relatively speaking, an applicant’s previous work experience seems to have the play greatest role in the recruitment decisions of middle-sized SMEs.

The respondents were asked to assess, on a similarly four-step scale, how important a number of general qualities required in working life were in jobs in their field. As in the previous question concerning the qualities influencing their selection of new employees, the managers considered a positive attitude and initiative but also cooperation skills and practical field-specific skills the most important qualities. It appears that the respondents’ workplaces need least the skills required to conduct business in foreign languages, writing skills, a knowledge and skills base for further and higher studies, and obedience. When the respondents were asked to pick from the list the three qualities that they considered most important, a majority singled out practical field-specific skills as the most important qualities, with cooperation skills and a positive attitude placed as second and third respectively. Initiative and an ability to solve problems on one’s own also gained a relatively great deal of support as the second most important quality. Both small and big enterprises were comparatively unanimous about the importance of the different qualities in jobs in their field.

The managers and the students were asked about the skills and qualities needed in working life on the one hand and provided by the students’ education on the other. A comparison of their answers suggests a fairly good fit between education and working life even if the managers consider that working life needs even more of most of the qualities provided by the students’ education, except for writing skills. The relatively smallest differences between the skills needed in working life and the skills provided by the students’ education are found in the ability to use information sources and in mastery of the knowledge and theoretical base of the given occupation, the greatest in initiative, independent thinking skills and life management.

Altogether, the answers lead to the conclusion that large industrial enterprises in particular see educational cooperation and provision of work-based learning placements as a way to ensure the future availability of competent personnel, naturally an important factor from the point of view of the enterprise’s productivity and its ability to achieve its future targets.
The Perspective of the Workplace Trainers. The workplace trainers were asked about the personal disadvantages involved in the supervision of work-based learning. Nearly a third of those who took part in the survey thought that there have been no disadvantages, but on the other hand a third considered the additional work and responsibility linked with supervision as a disadvantage and a good fifth mentioned also being pressed for time. When they were asked about the benefits of cooperation with the educational establishments, the workplace trainers mentioned most often the broadening of their own perspective and acquiring new information about today’s education or about other things, while those trainers who mentioned access to labour and the student’s contribution as the relevant benefits clearly represented the enterprise’s point of view. As for the benefits from cooperation with teachers, those mentioned most often by the workplace trainers were acquiring information about the students or about the expectations of the educational establishment and discussions with the teacher. Every sixth trainer claimed that there has been no collaboration at all or that it had brought no benefits.

The respondents were also asked about their readiness to commit themselves to serve as workplace trainers. A fifth are either unwilling to make such a commitment or have not decided yet, while a majority (50%) of those who expressed willingness to continue as workplace trainers said that they were ready to commit themselves for at least a few years or for an indefinite period.

The workplace trainers considered that the students learn to work relatively independently in a month at most or depending on the student or task. The trainers’ answers suggest that the work-based learning experiment had had a positive effect on developing the enterprises’ operations, clarifying their targets and finding new ideas. Only a good fifth of them answered that the experiment has not had much effect while a little less than a tenth did not know.

The Perspective of the Vocational Teachers. Nearly six out of ten of the vocational teachers who answered the questionnaire were women. They have mainly upper college-level and university-level qualifications and many of them had, in addition, long work experience from working life (only some every tenth had no such experience). Half the respondents have taken part also in workplace trainer training.

Work-based learning has meant that there are now new elements in the teacher’s work that have broadened its scope and enriched it by requiring the teachers to develop professionally as regards both pedagogic and cooperation skills. Despite reduced teaching hours, the teachers’ overall workload seems to have increased. The new challenges and greater variety involved in their work stem from new learning and teaching environments and more individualised curricula. Work-based learning requires the teachers to invest particularly their free hours, but as benefits may be considered many things that are making their work more varied. According to the teachers’ answers, the benefits gained by the educational establishment from work-based learning include, apart from partners and help in planning, also an incentive to rationalise their operations and focus on their own strengths or the foundations of acquiring occupational skill.

When the teachers were asked about the targets that they set for their students’ work-based learning, they mentioned most often the student’s finding a job and/or establishing relations with employers, learning their occupation, increased work experience, learning new things, acquiring working-life skills, learning customer service, receiving a salary, becoming independent, internalising the role of an employee and doing good in their studies. Benefits from work-based learning mentioned most often by the teachers included networking and the improved employment prospects it brought, increased work experience and occupational skill, the function of the work-based learning period as a probationary period during which the employer can try out a possible new employee, the student’s own opportunity to find out whether the occupation suits them, and the chance that both parties have to get to know each other. The teachers think that work-based learning
promotes various working-life skills (such as cooperation, social and communication skills), practical occupational skills, independence, easier transition to working life, mastering comprehensive wholes, the growth of a sense of responsibility, learning and applying what one has learnt, and problem-solving skills. The qualities developed by work-based learning most often mentioned by the teachers were initiative, practical skills, cooperation skills and self-confidence.

There was a great deal of overlap between the qualities that the enterprise managers mentioned most frequently as those most important in jobs in their field and the skills brought up by the teachers and the students.

Cooperation between educational establishments and enterprises offering work-based learning placements is not new as such, and both the teachers and the workplace trainers consider that it already works fairly well. Naturally, increased efforts to develop collaboration on work-based learning and to disseminate relevant information presupposes increased time and other resources, that is, increased human capital investments both from society and enterprises.

SUMMARY

Despite a good half of the students reporting that they were studying to improve their employment prospects, the students’ overall expectations concerning the return of their investment in education were as expected because finding one’s study field interesting was nearly as important a reason for undertaking studies towards the given qualification as was finding oneself a job. The studies were perceived to have a positive effect on occupational skill, understanding and accepting different kinds of people, and employment and career prospects, things that are, simultaneously, obvious individual and societal returns of a human capital investment. By contrast, education had a less positive effect on the students’ willingness to set up an enterprise of their own and on their financial situation. The students who had taken part in the work-based learning experiment felt that they had, through work-based learning, acquired many skills of a kind considered also by the enterprises as the most important preconditions of successfully performing the tasks in their field and as the most important criteria used by them in selecting new employees.

While the workplaces provided an opportunity to learn situation-specific dimensions of the work by experience, the educational establishments enabled the students to gain a broader understanding of their future occupation. The workplaces were considered the best places for learning sociability, gaining an overall grasp of various aspects of the occupation, learning to think and learning the customs and rules of the work community.

In the eyes of the managers of the enterprises offering, in the Bridge experiment, work-based learning placements to students of vocational upper secondary education establishments, a positive attitude and initiative and personal qualities in general are, among the subsectors of human capital, more important recruitment criteria than, for example, education and work experience. The managers’ answers suggest that these qualities, related to proper attitudes towards work and to cooperation skills, are - in addition to practical occupational skills - those most needed also in tasks in the respondents’ line of business. By contrast, foreign language and writing skills (often considered important by educational establishments) are rated as the least important qualities.

The managers’ answers to the questionnaire suggest that work-based learning is seen in enterprises as a longer-term investment even if managers of enterprises of different sizes and representing different lines of business do not, naturally enough, in all respects agree on its benefits or profitability. Particularly in a short term, promoting the enterprise’s productivity is not among the most important functions of work-based learning, but work-based learning is considered a suitable method of, for example, developing cooperation with educational establishments and of orienting new employees.
Large industrial enterprises benefit from work-based learning primarily in the form of easier recruitment while the owner-entrepreneurs of small enterprises and the self-employed gain also new ideas and partners. The size or line of business as such of an enterprise do not seem to affect its ability to organise work-based learning, but as also earlier research has shown, in smaller enterprises it is more difficult to provide workplace learners with a supervisor trained for the task. On the other hand, the smaller enterprises often operate in fields where tasks can be more varied and comprehensive than those that workplace learners are offered in, for example, enterprises engaged in industrial production.

The survey among the workplace trainers reveals that supervising students increases somewhat the workload and responsibilities of the employees who become trainers, while gaining new knowledge and new perspectives are the things most often mentioned by them as the benefits of their new task.

The teacher survey suggests that work-based learning has meant that the teacher’s work now has new elements that have broadened its scope and enriched it by requiring the teachers to develop professionally particularly as regards pedagogic and cooperation skills. There have been some changes in the role of the vocational teacher, and despite reduced teaching hours the teachers’ overall workload seems to have increased. At the same time, a better fit between education and working life has enabled also educational establishments to rationalise their operations and to approach their tasks in an more systematic manner.

It can be observed by way of a summary that all the parties covered by the survey consider that work-based learning achieves quite a good fit between education and working life. Considering work-based learning from the perspective of investment showed that on average the students believe that they are acquiring skills essential for entry to working life and improving their employment prospects, that the enterprises incur no additional costs because of taking on workplace learners, that the workplace trainers do not see their supervisory duties as too much of a distraction from their main job, and that even the teachers are mainly satisfied with the changes that have taken place in their work. However, on the reverse of this overall picture we find the fact that the students are not given enough guidance, that unpaid work does not motivate, that in small enterprises unreasonable amounts of time are sometimes spent on orienting and guiding the student, that a workplace trainer may be reluctant to guide the students or lack the requisite skills, that the teachers’ workload has increased and that they are constantly pressed for time and suffer, as a result, from feelings of inadequacy. On the other hand again, when the requirements of working life change rapidly in some fields, work-based training is one of the best methods of preparing young people, particularly those at risk of unemployment, successfully for an occupation.
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