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Learning in organisations: a corporate curriculum for the knowledge economy

Joseph W.M. Kessels *

*Twente University NL and Kessels and Smit, Dronkelaarseweg 13, 3784 WB Terschuur,
The Netherlands*

Abstract

This paper elaborates on the argument that the economy is transforming into a knowledge economy. Therefore, individuals, teams and companies need to develop the necessary competencies to be able to participate in a working life that is mainly based on knowledge productivity. The traditional approaches to management, training and development will not provide the learning environment that is required for knowledge work. Each company should consciously design a corporate curriculum that turns the day to day work environment into a learning environment. The knowledge economy may bring prosperity to those who join the new elite of knowledge workers. Inherently, it also creates new imbalances. © 2001 Elsevier Science Ltd. All rights reserved.

1. Introduction

Our society is gradually moving towards a knowledge economy: an economy in which the application of knowledge replaces capital, raw materials, and labour as the main means of production. The essential ingredient of products and services is the inherent knowledge. The ability to gather information, generate new knowledge, disseminate, and apply this knowledge to achieve improvement and innovation is an organisation's knowledge productivity. Knowledge productivity will remain the dominant economic factor in a knowledge society and stresses the importance of a flexible and competent workforce. Creating powerful learning environments is crucial in this context. Therefore, this paper *Learning in Organisations: A Corporate Curriculum for the Knowledge Economy* addresses the following questions: If learning is

* Tel.: +31-342-462116; fax: +31-342-461304.

E-mail address: kessels@kessels-smit.nl (J.W.M. Kessels).

so essential for organisations, does a special plan for learning exist? The tremendous importance of learning power instigates the demand for a *corporate curriculum*. The corporate curriculum will subject classical educational instruments, such as training courses and workplace instruction, to critical evaluation of their usefulness with respect to the aforementioned knowledge productivity, the required flexibility and the supporting competencies. How can we develop a corporate curriculum?

2. Knowledge productivity

Perceptions of the role of human interventions in economic transactions have changed. Appreciation of an individual's physical labour and ability to regulate and co-ordinate has given way to an emphasis on potential contribution to the production and application of knowledge.

Of the products manufactured and services rendered by organisations, material items (such as commodities), capital and labour, are less significant than the combination of knowledge embodied in the product or service. Drucker [1], Giddens [2] and Castells [3] give many reasons why mankind is abandoning the traditional economy of commodities, capital and labour in favour of a knowledge based economy. As knowledge will play a dominant role in organisations, not only at the top but at all levels, the day to day work environment should favour learning processes that support, what I tend to describe as the process of 'knowledge productivity' [4].

Knowledge productivity involves signalling, absorbing and processing of relevant information, generating and disseminating new knowledge and applying this knowledge to the improvement and innovation of processes, products and services. Learning processes support many of the elements in the description of the concept of knowledge productivity.

Traditionally, training and education offer the learning environment for the required knowledge, skills and attitudes. However, many training programmes pursue very general goals, such as: 'managerial skills for middle management', 'improving insight into financial aspects of corporate management', 'introduction to information technology', 'customer-friendly conduct' and 'communication skills'. As a logical consequence of this inadequate description of skills, there is rarely any testing to evaluate the proficiency of participants with respect to the stated objectives or their improvement following the programme. In a depressing but nevertheless predictable outcome, credible American estimates suggest that only 10% of training programs have a major impact on employee performance [5,6]. When the work in the new economy focuses on knowledge productivity, we need to rethink the role of training and development. Not only are the type of learning outcomes the subject of investigation, also the processes that lead to the desired outcomes.

3. Work means learning to learn

Learning to learn is a competence of universal value and importance. Individuals need this special learning ability to remain abreast of constantly changing working

conditions. This applies more than ever when knowledge productivity becomes the main economic drive. Subsequent elaboration of proficiency in learning to learn requires a conceptual basis that focuses on insights into meta-cognitions and self-regulation to support these learning processes.

The support of these important processes of knowledge creation requires expertise such as conducting task-analysis research for valuable competencies, making tacit knowledge explicit, facilitating group work and team building, and supplying mentors and coaches with appropriate guidance abilities. In a knowledge economy, attention to education may increase markedly if educational programs are viewed as integrated plans for organisational learning rather than as isolated courses.

Knowledge is crucial for continual improvements to existing products and services and for radically innovative measures. Organisational hierarchy will also reflect these changes. During the industrial revolution, the power resided with the masters of the most important means of production: the owners of the machines. Knowledge was stored in these machines. During the revolution in productivity, control shifted from the owner-shareholders to the managers, who applied this knowledge to labour. Today, knowledge workers are taking charge. These individuals possess the intellectual means of production: generating; transmitting and manipulating data; information; and knowledge. The value of a product or service increases as knowledge is added.

With respect to the new balance of power, which relies on knowledge productivity, Balasco and Stayer [7] have introduced the concept of intellectual capitalism, which is exercised by knowledge workers. Line managers stimulate and create conditions conducive to cultivating the intellectual capital of employees. One could even argue that the traditional hierarchy in management thinking is no longer appropriate for organising knowledge productivity. Many heads of departments where teams of specialised professionals do their work cannot participate in the type knowledge production that takes place in these teams.

In the best case, these managers are helpful facilitators that create the necessary environment for the knowledge work to be done. In the worst case, traditional managers who organise work on the basis of obedience to bureaucratic rules are a hindrance for the development of knowledge networks, a prerequisite for knowledge productivity.

At present, various organisations are even investigating ways to express the economy of their knowledge in monetary terms on the balance of the annual accounts. This trend is yet another indication of the emergence of applied knowledge as the most important corporate resources [8]. This trend might suggest the dawn of a golden era for human resources (the bearers of knowledge) and for education (the processes that produce knowledge).

While this heyday may indeed be with us, it probably affects a select group. Like the former distinction between blue collar and white collar workers, Drucker [1] differentiates service personnel from knowledge workers. While knowledge workers are the actual agents of economic productivity, service personnel enable knowledge workers to perform their knowledge work.

To complement the concepts of blue collar and white collar workers, Sadler [9]

has introduced gold collar workers: highly talented knowledge workers that serve as the sole scarce corporate resources in a knowledge-based economy. However, gold collar workers cannot do their work properly without sense making interaction with the service people developing on-going their tacit knowledge.

The talents of knowledge workers are put to optimal use through material provisions and especially through an educational environment that furthers personal expertise. This climate enhances and stimulates participation by talented employees in interesting and useful projects and in professional and scholarly networks. The surroundings of employees should encourage them to take initiatives and to develop an individual perspective within the opportunities of the organisation's strategic policy.

The educational facilities primarily serve to nurture rare talent. Every knowledge worker whose achievements noticeably increase knowledge productivity will benefit more from these educational facilities. Service personnel will clearly be relegated to a secondary role in this process. The present dismal situation (in which poorly educated workers benefit less from educational facilities) is likely to become more acute in the knowledge-based economy, where only a small share of the human resources are considered true resources. Therefore, an economy, that favours knowledge productivity over the property of capital, the availability of (physical) labour and the proximity of material, is likely to create new classes. The highly talented, hard working ambitious professionals, who permanently develop their competencies through recurrent education, interesting projects and inspiring networks of peers, are probably the new ruling class.

Those who prefer to balance their working and private lives, the lesser gifted and socially disabled will not make part of the new elite that consider knowledge work as an exciting form of top sports.

On the other hand, assigning work on the basis of core competencies also provides an opportunity to rectify the apparent subordination of service personnel with respect to knowledge workers. As soon as a group of service personnel becomes aware of its core competencies and independently cultivates and markets them, these individuals turn into knowledge workers. They become able to improve their knowledge productivity by adapting existing information, generating, disseminating and applying knowledge productively on the basis of their own core competencies.

When knowledge productivity means signalling relevant information, to create new knowledge and applying this knowledge to the improvement and innovation of work processes, products and services, this concept will serve as the new objective of educational facilities in organisations active in a knowledge economy. This trend, which makes knowledge productivity the dominant process for adding value, is irreversible.

Nevertheless, the design and availability of the educational facilities provided should enable employees to acquire as many competencies as possible to retain their role in knowledge productivity.

Research by Warmerdam and van den Berg [10] confirms the increasing importance of knowledge-based work. Simple, routine and low-level functions are diminishing, while complex high-level functions are increasing. Onstenk [11] introduces

the concept of broad professional skill to describe the competence that is needed to participate in a flexible way in organisations. Seven types of competencies are distinguished: technical-occupational competence; methodological; organisational; social-co-operative; cultural-normative; strategic; and learning competencies. Developing broad professional skill must be regarded as the ultimate aim of vocational and company training as well as learning on the job.

However, the traditional significance of education as a means to impart information and to provide skills has become secondary. Henceforth, educational programmes in organisations shall emphasise learning as a means of improving internal knowledge productivity. This evolution is already in progress following the introduction of concepts such as ‘the learning organisation’ [12–14] and ‘the intelligent organisation’ [15,16]. In this context the role of corporate education can be described as *the course of action open to an organisation, for influencing the necessary competencies of managers and employees, that contribute to goal-oriented changes in their performance and in their work environment, thus striving for a desired impact on the organisation, by applying planned learning activities and the resulting learning processes* [17].

Permanent improvements and innovations at and around work quickly depreciate expertise achieved upon completing a programme for vocational education. The need for staff with broad and versatile abilities demands ongoing continuing education. Understanding that technological and other forms of knowledge quickly become obsolete highlights the importance of knowledge assets as well as the need to update knowledge.

Dutch and American studies of competencies that stimulate learning to learn indicate the essential nature of the following elements: understanding one’s own style of learning, acquiring an awareness necessary for applying convergent, divergent, critical and intuitive processes of thought and becoming more skilled in organising educational activities [18,19]. Subsequent elaboration of proficiency in learning to learn requires a conceptual basis that may be gleaned from educational psychology. Insights into meta-cognitions and self-regulation to support these learning processes are essential in cultivating the ability to learn [20,21].

Learning processes occurring at and around the workplace are more powerful than learning processes embodied in formal training settings [17]. Such learning processes take place among staff members in the course of their work. They involve learning through utilising occupational equipment and learning by staff and supervisors alike during interactions with clients. If the learning from a formal curricula does not receive support from the powerful learning processes inherent in the course of daily operations, its effect will be minimal.

Accordingly, the role of educational curricula will arouse far more interest in the event of a clearer relationship between learning processes in the training setting and at the workplace. The abundance of programmes that resemble formal, classical, and school-type settings that are a far cry from the problems encountered by the trainees in their actual work on a daily basis has tarnished the reputation of training programmes.

This situation may also explain the growing interest in various forms of on-the-

job training. The shift toward workplace instruction has emphasised the educational function of supervisors, managers, close collaborators, and coaches [22,23,11]. In addition, people are becoming increasingly aware that learning for knowledge work may be stimulated and supported through a variety of means other than formal training programmes.

Options include issuing special assignments, changing positions or seconding staff members, and actively participating in quality teams and discussion groups. Alternative possibilities entail organising the work through project management and equipping the workplace with electronic performance support systems [24].

Nevertheless, trainers have developed specific expertise that is very relevant to the work environment of knowledge workers. These important skills include conducting task-analysis research for valuable competencies, making tacit knowledge explicit, facilitating group work and team-building, and supplying mentors and coaches with appropriate guidance abilities. Designing games and simulations can be of great value for examining learning processes and developing work practices that enhance learning.

4. The learning functions of the corporate curriculum

If learning is so essential for organisations, does a special plan for learning exist? The tremendous importance of learning power instigates the demand for a *corporate curriculum*.

The acknowledgement that firms operate in a knowledge economy assigns a strategic significance to knowledge productivity. The ability to add value to products and services through knowledge plays a central role. The development of core competencies is the crucial objective here and requires that firms acquire, create, disseminate, and apply knowledge to improve and innovate processes, products, and services.

Given the vital importance of the learning processes involved, leaving the necessary learning to random opportunity would be imprudent. A systematic approach with a clear purpose therefore appears necessary.

The feasibility of managing such learning processes is open to question and is hardly possible in the manner in which we are accustomed to running other industrial processes. Ascertaining the knowledge required for developing competencies is far from simple. Even if you succeed, the necessary learning processes will not appear on command. The desire to manage and control learning processes is like trying to force somebody to learn.

In the previous sections the demand for knowledge productivity and the importance of continuous learning are described as the two sides of the same coin. Organising educational provisions that promote learning to increase the knowledge productivity of individuals and teams becomes part of the day to day business policy. The corporate curriculum provides the framework for the learning functions that promote the ability to signal relevant information, to create new knowledge and to apply this knowledge to step by step improvement and radical innovation of work processes, products and services.

The type of learning outcomes and the learning processes leading to knowledge productivity require a curriculum that takes a different form than the traditional catalogue of isolated training programs. Rather, the corporate curriculum should be viewed as a rich landscape where personnel and teams find their way and construct knowledge. An organisation that tries to improve its knowledge productivity will focus on the analysis and support of the following learning functions [4,25].

4.1. Subject matter expertise

Acquiring subject matter expertise and skill directly related to the scope of the target competencies. The competencies related to acquiring subject matter expertise have been the main objective of training and development. Yet, a highly specialised work force does not make a learning organisation that becomes knowledge productive.

4.2. Problem solving

Learning to solve problems by using domain specific expertise. It is important to develop competencies with which existing domain specific knowledge is applied to solving new problems. This requires besides reproductive skills also productive skills: how to act in new and ill defined problem areas?

4.3. Reflective skills and meta-cognitions

Developing reflective skills and meta-cognitions conducive to locating paths leading to new knowledge and means for acquiring and applying this asset. The main questions that we should answer here are: How come that we are good in solving this type of problems, and why are we doing so bad when factors of type x are involved? Where is our intelligence located? How come that we are making progress in this field, but lagging behind in adjacent domains?

4.4. Communication skills

Securing communication skills that provide access to the knowledge network of others and that enrich the learning climate within a workplace. Knowledge productivity requires easy access to relevant sources of information and competence. Getting access to these networks relies heavily on the proficiency in communication and social skills. It is not only a matter of polite behaviour. The main question here is: how do I make myself attractive in order to participate in the network of interesting knowledge workers? What can I offer and how am I accepted? Highly developed social and communication skills promote a favourable learning climate.

4.5. Self regulation of motivation and affection

Procuring skills that regulate the motivation and affections related to learning. In a traditional economy a manager could say: Joseph work harder, or run faster. In a

knowledge economy it is useless when a manager says: Joseph, be smarter or show more creativity! Being smart and creative depend heavily on personal interest. Questions that are import here are: Why do you get up so early to avoid the traffic jams? What is it that makes you move? What is your main drive? How come that you put so much energy in that project? Why is it that you fully neglect the work of your colleague K? Affections, affinities, and emotions play an important role in knowledge work. I cannot be inventive in a domain for which I am not motivated. What is meaningful work for me and how do I become committed? Finding out what emotional and affective drives employees have and how they can regulate these will probably be an important aspect of human resource development in a knowledge economy.

4.6. *Peace and stability*

Promoting peace and stability to enable specialisation, synergy, cohesion, and integration. Peace and stability are necessary for gradual improvement. How do I learn from the past and how can I apply this to my actual work? Unfortunately, many employees work in an environment that is permanently disturbed by reorganisations, business process redesign projects or fast moving managers. Lack of redundancy and time to reflect exploit existing (intellectual) resources, and consume these without generating new knowledge. Lack of peace and stability results in impoverishment of intellectual assets.

4.7. *Creative turmoil*

Causing creative turmoil to instigate innovation. Creative turmoil brings the dynamics that push towards radical innovation and leaving traditional paths behind. Creative turmoil requires a certain amount of existential threat. It should really matter, to surmount or to lose. In a sense peace and stability, and creative turmoil are two contrasting learning functions. Some employees will do better in an environment that is reigned by peace and stability, others feel spurred by creative turmoil. We think that both are necessary, but in a balanced way.

The policy and the activities that an organisation develops to promote these seven learning functions form its *corporate curriculum*: the plan for learning to increase knowledge productivity by applying new competencies for flexible adaptation.

5. Conclusion

The economy is transforming into a knowledge economy. Therefore, individuals, teams and companies need to develop the necessary competencies to be able to participate in a working life that is mainly based on knowledge productivity.

The traditional approaches to management, training and development will not provide the learning environment that is required for knowledge work. Therefore, each

company should consciously design a corporate curriculum that turns the day to day work environment into a powerful learning environment.

The knowledge economy may bring prosperity to those who can join the new elite of knowledge workers. Inherently, it also creates new imbalances. The various learning functions help individuals to develop their talents and take part in various forms of knowledge work. The concepts of knowledge productivity and the corporate curriculum raise also the question in how far knowledge productivity can be managed. These concepts may even question the role of managers in a knowledge economy.

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