TOWARDS A LEARNING CULTURE FOR SUSTAINABLE KNOWLEDGE PRODUCTIVITY: THE 21ST CENTURY GROWTH ENGINE FOR VALUE CREATION

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Abstract

The article examines the implications of the transition from a traditional economy towards a knowledge society, in which the need for improvement and innovation is a driving force. The main concept is built on knowledge productivity as an ongoing learning process that enables the search for relevant information, the development of new competencies and capabilities, and their application to urgent matters in the day-to-day work environment. As a consequence, the work environment should be perceived as a powerful learning environment. If so, it is argued that there is a need for a well-developed corporate curriculum, a rich learning culture in which improvement and innovation can take place.

An analysis of a series of European and Asian empirical studies sheds new light on the importance of a creative learning culture and the role of leadership. For improvement, breakthroughs and innovation. The article concludes with a set of policies and design principles that facilitate a learning culture for sustainable knowledge productivity.

Keywords: learning culture, knowledge productivity, corporate curriculum, creativity, distributed leadership

Introduction

For grasping the ongoing transition from an agriculture society towards an industrial society and the emerging knowledge economy (Drucker, 1993), there is a need for better understanding the specific characteristics of the learning culture and the resulting creativity that bring about these changes. Recent research sheds new light on factors that enable the transformation of available information into new capabilities that facilitate incremental improvement as well as radical innovation of operating procedures, products and services. This transformation is also called knowledge productivity (Kessels, 2001). In essence knowledge productivity is inherently a creative learning process. The cultural characteristics of the environment in which knowledge productivity takes place seem to have a strong influence, not only on its outcomes, but also on its sustainability. On the basis of new findings (De Jong, 2010; Kang, 2015; Kang, Kessels, Lee & Cho, 2014; Kessels, Verdonschot & De Jong, 2011; Verdonschot, 2009), this article not only explores the conditions of a learning culture for sustainable knowledge productivity but also proposes a set of policy requirements and design principles that may enhance creativity and innovation.

In effect this text explores the domain of knowledge productivity and innovation, trying to answer the following research questions:

1. If innovation can be regarded as the outcome of a creative learning process in a social network, what are the main characteristics of the supportive learning culture?
2. Which are the relevant design principles for developing a learning culture conducive for innovation?

These questions are relevant, as in the 21-century knowledge economy, knowledge is becoming the most important asset of companies, institutions and nations. The capability of making knowledge productive will be the critical element in the process of value creation (Kessels, 2004). Financial capital, natural resources and labor will remain important assets, however, the capacity of transforming knowledge into competencies for gradual improvement and radical innovation will become the essential fuel for the growth engine of value creation in companies, institutions and countries (Kang, 2015; Kang, Kessels, Lee & Cho, 2014).

Knowledge productivity of connected individuals

The main concept in the theoretical framework is knowledge productivity: the capacity of an organisation or team to gather and interpret relevant information, to develop new capabilities on the basis of this information and applying these to the gradual improvement and radical innovation of work processes, products and services (Kessels, 2001).

The process of knowledge productivity is considered as inherently a creative learning process that includes information collecting, problem analysis, competency development and productive application of these competencies in new, unknown situations. These learning processes take place in teams or networks and can be described as social learning processes (Akçomak, 2009) and require a certain amount of social capital Kessels & Poell, 2004). In these networks we can observe bonding, bridging and linking connections (De Jong, 2010), which can be considered as the structural dimension of social capital (Woolcock, 2001). Bonding connections closely tie together people from a very similar background, like family members and close friends and, colleagues in a stable team. Bridging connections bring together people who are from fairly similar backgrounds but are more loosely brought together, such as members across teams with shared interests. Moreover, linking connections bring together people from different backgrounds, very often from different organisations. These linking connections appear to be important for knowledge productivity and innovation.

In most instances, we find at the start of an innovation project an initiator with a strong personal interest in a specific urgent question who takes the lead, inviting colleagues to participate and starting the process of searching for relevant information, developing new competencies and experimenting with innovative practices (Verdonschot, 2009).

A corporate curriculum

As the innovation processes in a corporate setting or institution are inherently learning processes, it is relevant to explore the characteristics of the learning culture that are at stake. In previous studies such a learning culture has been analysed in terms of seven learning functions of a corporate curriculum, that constitute a rich and creative landscape for learning and development in a work environment (Kessels, 2001; Stam, 2007).The following section presents a brief introduction of these seven learning functions.

Learning function 1: Subject-matter expertise

Acquiring subject-matter expertise and skill directly related to the scope of the innovation project at hand: the competencies related to acquiring subject-matter expertise traditionally have been the main objective of training and development. Yet, a highly specialised work force does not necessarily make a learning organisation that becomes knowledge productive.

Learning function 2: Problem solving

Learning to solve problems by using subject-area-specific expertise: it is important to develop competencies with which existing subject-matter knowledge is applied to solving new problems. In addition to skill at remembering and retrieving relevant knowledge, it also

requires the creative skill at applying knowledge: how does one act in new and ill-defined problem areas?

Learning function 3: Reflective skills and meta-cognitions

Developing reflective skills and meta-cognitions that are conducive to locating paths leading to new knowledge and the means of acquiring and applying this asset. The main questions that we should answer here are: how can it be that we are good in solving a certain type of problems, and why do we perform so badly when factors of type x are involved? Where is our intelligence located? How can it be that we are making progress in a certain field, but lagging behind in neighbouring areas of activity? What are our talents and how do we use them?

Learning function 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 human sources of information and competence. Getting access to these networks relies heavily on proficiency in communication and social skills. It is not only a matter of polite behaviour. The main question here is: how do I make what I can contribute attractive in order to participate in the network of interesting knowledge workers? What can I offer and how well am I accepted? Highly developed social and communication skills promote a favourable learning culture.

Learning function 5: Self-regulation of motivation and affinity

Acquiring skills that regulate motivation and affinity related to learning: in a traditional economy a manager could say: 'Joseph, work harder, or run faster'. In a knowledge economy it is pointless for a manager to say: 'Joseph, be smarter or show more creativity!' Being smart and creative depend heavily on personal interest and intrinsic motivation. Questions that are important here are: What is it that moves you to do what you do? What is your main drive? How is it that you put so much energy into that project? What are your precious capacities? Favourable attitudes, affinities and regulation of emotions play an important role in knowledge work. One cannot be inventive in an area of activity which does not motivate. It is crucial to find out what represents meaningful work for staff members, and how they can get to the stage where they are genuinely committed? Finding out what emotional and affinity-related driving factors employees have and how they can regulate them, will probably be an important aspect of human development in a knowledge economy. Cultural aspects seem to be highly relevant here.

Learning function 6: Peace and stability

Promoting peace and stability, to enable specialisation, synergy, cohesion, and integration to further develop. Peace and stability are necessary for gradual improvement as they offer room for learning from the past and how to apply these reflections to present work. Unfortunately, many employees work in an environment that is permanently under pressure, disturbed by reorganisations, by projects involving the redesign of business processes or by rapid changes in management staff and direction. Peace and stability prevent a lack of available scope and time to reflect upon and exploit existing (intellectual) resources, in order to utilize them specifically to generate new knowledge and new solutions. Absence of peace and stability results in impoverishment of the learning culture and its intellectual assets.

Learning function 7: Creative turmoil

Causing creative turmoil to instigate innovation: creative turmoil generates the dynamic which pushes the process towards radical innovation and leaves traditional paths behind. Creative turmoil may require a certain amount of existential threat and courage to overcome uncertainty. It should really matter whether those involved prevail or are defeated. In a sense, peace and stability on the one hand and the urgency of creative turmoil on the other hand are two contrasting learning functions. Some staff will do better in an environment

characterized by peace and stability, while others feel spurred on by creative turmoil. We think that both are necessary, but must be applied in a balanced way. In this period of Covid-19 stress, we can observe abundant creative turmoil and unexpected individuals seem to take the lead, while those who used to thrive in peace and stability feel most uncomfortable.

The policy and the activities which an organisation develops to promote these seven learning functions form its *corporate curriculu*m: the rich landscape of a work environment that enables learning and development to increase knowledge productivity. It forms the cultural basis for creativity, improvement and innovation for value creation.

Leadership and knowledge productivity

As value creation through improvement and innovation is one of the prime objectives and responsibilities of leadership in business and governments, it is extremely important not only to understand the process of knowledge productivity but also how to put it into day-to-day practice. High levels of education, large numbers of graduates and the availability of financial means are just not sufficient prerequisites. Knowledge productivity as the growth engine for value creation requires an attractive learning climate that encourages boundaryless thinking, and an imaginative and entrepreneurial spirit, not only at the top but at all levels in companies, institutions and even countries (Kang, 2015).

For this reason, we will discuss the implications of knowledge productivity and value creation in this section and what it means for leadership. For upgrading knowledge productivity to the highest-level just conventional knowledge management is insufficient to maximize value creation for achieving inspiring visions and goals. How can we build an organizational culture that nurtures knowledge productivity and what are the major roles of leadership in this challenging enterprise?

Despite the importance of intangible assets like learning and knowledge development, the concepts of knowledge productivity and the corporate curriculum raise also the question of how far knowledge productivity can be managed. These concepts may even question the traditional role of managers in a knowledge economy. The transition towards a knowledge-based society is a slow but dramatic change with a tremendous impact on organizing work and the meaning of learning.

In the current timeframe, it is challenging for leaders to investigate the characteristics and requirements of an emerging knowledge economy and its implications for staff development in the context of work-related learning. Such analysis might lead to the fresh hypothesis that externally imposed performance goals, power-based managerial positions and the concept of ownership of knowledge intensive companies in the hands of anonymous shareholders, could well inhibit knowledge productivity. Who owns the production factor of learning and its resulting knowledge?

The defence of such propositions is related to a strong emphasis on the emancipated and autonomous professional (Kessels, 2018). Such a perspective is not restricted to the highly educated knowledge worker: manual workers too find it essential to be cooperative, responsible, creative and act with autonomy. The socially embedded process of knowing requires an organizational context that fosters networks that find their cohesion through the mutual attractiveness, reciprocal appeal, shared interest and the passion of their members. Traditional virtues like obedience and loyalty do not propel creativity, improvement and innovation. Just traditional human capital of a well-trained workforce as a resource for organizational performance (Becker, 1993) will not be enough. It needs to be supported by social capital, based on shared responsibility, integrity, trust, respect for human dignity, environmental awareness and corporate social responsibility (Kang, 2015). All these elements require specific leadership characteristics and special care for the quality of the corporate curriculum. This may leave managers in an insecure position: the traditional role of

middleman between capital and labour becomes obsolete, and controlling brainwork is hardly possible any more.

Knowledge management: an anachronism

Many leaders recognize the importance of organizational knowledge and the capability to improve and innovate, but they often apply the traditional management principles to exploit this potential resource. From a classical business perspective, it was inevitable that 'knowledge management' entered the organizational area. However, when knowledge productivity comes to be regarded as a creative learning capability that cannot be directed, handled, controlled and assessed in a manner familiar to managing financial capital, commodities and physical labour, then knowledge management will appear to be an anachronism, using an outdated term to facilitate a new phenomenon.

The concepts of knowledge productivity and the corporate curriculum raise the question of how far a creative learning culture can be managed. The corporate curriculum, as a collective learning space, might become the binding force of knowledge networks and smart communities that heavily depend on shared intrinsic motivation and personal affinity with the content of the job. This may require a different approach of leadership, not based on formal position and power, but on granted authority by staff members appreciating a creative and productive learning culture as proposed by the seven functions of a corporate curriculum.

A learning environment for knowledge work

For organizations, knowledge becomes productive when the creation and application of knowledge results in gradual improvements and radical innovations of operating procedures, products and services. These processes take place in collaborative work relationships. Knowledge work and learning cannot be enforced on the basis of power, control or contract. It requires a shared ambition that is attractive, comprehensible and meaningful for both employees and the organization. New ways of organizing work for knowledge production need to be developed. Instead of being managed, knowledge workers and autonomous professionals take charge of their own development. The main principles for this concept are self-regulation, integration of working and learning, coaching, collaborative and distributed leadership. Such learning processes take place among staff members and clients in the course of their work. 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 programs. Options include issuing special assignments, changing positions or seconding staff members, and actively participating in innovation teams and discussion groups.

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. Yet 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 knowledge creation appears far from simple, as the necessary learning processes will not appear on command. Adopting a socio-constructivist approach, new terms may be used such as a 'rich landscape for learning' where learners become motivated, not on the basis of hierarchy and power, but through relevant, authentic and meaningful work, in collaboration with colleagues. Instead of 'managing' the required learning processes, nurturing and supporting the learning ecological system is advised.

The traditional approaches to management, training and development will not provide the learning environment that is required for knowledge work. Therefore, each work-environment should consciously develop an integrated plan for learning, 'a corporate

curriculum' that turns the day-to-day work environment into a powerful learning environment. On the basis of the argument made in the previous sections, participants in a knowledge economy who wish to integrate the necessary learning in their actual work, need to adopt a number of learning strategies, that involve reflecting on the meaning of their job in relationship to their talents and capabilities. These learning strategies also include regular discussions on how to turn the work environment into a rich and interesting setting. As teamwork is so important, members need to confer on how to improve their collaboration and making it more appealing.

Individual professionals will search for the hidden factors that inhibit and support their motivation, involvement and commitment. In fact, these strategies aim at enhancing the learning infrastructure of knowledge work.

In a knowledge economy, where improvement and innovation are required for long term survival, standardization is not the goal, but rather the extraordinary, the surprizing, the artistic. This assumption not only affects managerial thinking, but influences our perception of the characteristics of almost every employee and knowledge worker. The knowledge economy will probably require autonomous, independent individuals who undertake learning for personal growth. Here the paradox of emancipation comes into play. When workers become active participants in the process of improvement and innovation, they also take on more and more responsibility. Doing so, they inevitably start questioning whether their interests match the interests of the organization.

Knowledge development, improvement and innovation require a high level of personal involvement from employees. This capability cannot exist without critical reflection and emancipation. Emancipated employees will judiciously examine the corporate goals, the ethics of governance, corporate responsibility, sustainability and shareholder property of their knowledge work. In a knowledge economy, corporate success and individual emancipation will be difficult to separate. Are top managers and shareholders able and prepared to pay this price for a new economic and societal order?

Design principles for a work-related learning culture

Analyzing a series of empirical studies on learning culture, improvement and innovation offers insight in how to structure the world of work when the focus is on improvement, innovation and creative problem solving. These studies not only include European cases (De Jong, 2010; Kessels, Verdonschot & De Jong, 2011; Kessels, Berghs & De Jong, 2019; De Jong, Verdonschot & Kessels 2012; Stam, 2007; Verdonschot, 2009) but also studies in Asia (Kang, 2015; Kang, Kessels, Lee & Cho, 2011). They lead to a number of design principles that can be helpful in establishing a favorable context for a corporate curriculum and thus for a creative learning culture.

An urgent matter

In the various case studies, it is often an urgent matter or question that fuels the innovation process. Teams do face a problem that they cannot solve by just applying known approaches. In many instances such a problem creates time pressure and dedication which contribute to the development of both incremental improvements and sometimes even radical innovations. This principle supports the learning function #7 of the corporate curriculum: Creative turmoil.

Time to reflect

However, as time pressure plays an important role in fuelling activities that lead to improvements, it is the time for reflection and an outward-looking orientation that makes radical innovation possible. Here, the linking relations (connections with members form different teams in different organizations and disciplines (Woolcock, 2001) as part of the structural dimension of social capital) facilitate the development and adaptation of external

solutions to one's own situation. However, in many organisations, due to the urgency of the problem at hand and in the rush to make progress with the project, there is little time either for reflection on the learning process in the network or for taking an opportunity to explore unconventional approaches (learning function #3: reflective and metacognitive skills as well as learning function #6: peace and stability). On the one hand creative turmoil (learning function #7) is favourable for urgency and it serves as a driving force towards finding solutions; on the other hand, peace and stability are conducive to reflection (learning function #6). In general, the freedom and autonomy to experiment appeared to be critical for innovation.

Action or reflection

In several cases the innovation process got stuck. Often this was preceded by long discussions and exchanges of opinions and information. Breaking this process of talking and analysing by taking action, creating something new, making a product or doing an experiment: these approaches helped participants to overcome such an impasse. It was observed that a team could get stuck in energy-draining discussions when it lacked the communication skills and capability for deliberate reflection (learning function #4). Working on an urgent matter often creates a very strong focus on the subject-matter expertise (learning function #1).

The importance of subject-matter expertise

The application of subject-matter expertise (learning functions #1 and #2) is at the heart of innovation. Colleagues find each other on the basis of a shared interest in a specific domain of expertise. They value and appreciate each other's know-how and experience when it comes to the urgent matter at hand.

Communication and learning

Successful innovation processes are often supported by specific communication skills (learning function #4). These skills are needed to handle freedom, autonomy and responsibility for achieving innovative results. Specifically, this applies to innovative teams, often acting as self-directed teams without formal leaders or hierarchical structures. Sometimes, a strong focus on the content and the subject-matter expertise makes itself felt at the expense of the communication skills; yet it is in fact these communication skills which facilitate the open exchange of opinions, creating a collaborative working atmosphere and supporting both collective learning and the building of trust and a safe learning environment. In such a favourable learning environment there is room for experimenting and unleashing the talents of each of the participants (learning function #5: Self-regulation of motivation and affinity). The important issue is that team members care for each other and show respect, leading to a tolerance of mistakes.

Planning and Control

Careful planning and managerial control do not appear to contribute much to the success of an innovation team. Moreover, trust, recognition and reward from management are important in the process of exploring new and unconventional approaches. Furthermore, it is primarily the initiator who plays an important role in bringing together the team and organizing the work in a passionate way, with this dynamic serving as the driving force for the success of a team. The initiator, not being the formal leader, seems to act as a powerful instigator of innovation. This role could be interpreted as a form of distributed leadership.

Personal drive and social learning

Strong personal drive and passion for the theme of innovation are crucial for building a successful innovation team. Personal drive and passion are qualities evident in the initiator who selects and invites his or her own team members. However, the indications are that, to achieve breakthrough, improvement and innovation it seems to be necessary to have linking connections, especially across companies and institutions. Apparently, the influx of

information, experience and expertise from different contexts is important for innovation. We were able to observe the following aspects: merely having been innovative in the past seems to be insufficient; however, the sustainable capability to be knowledge-productive did emerge in cases where there is a combination of a high level of social learning (where a shared language and codes can develop) with a lively exchange of experiences being able to take place in a safe environment. This might support the hypothesis that the sustainable capability of knowledge productivity heavily depends on a conducive and creative learning culture.

Conclusion

In concluding this contribution, it makes sense to answer the two preliminary questions from the introduction that directed the described search for a learning culture for sustainable knowledge productivity.

1. If innovation can be regarded as the outcome of a creative learning process in a social network, what are the main characteristics of the supportive learning culture?

Following the seminal work by Peter Drucker (1993) on a post-capitalist society, the day-to-day workplace will change into a knowledge productive environment where staff engage in a permanent process of improvement and innovation. Such work processes can be described in terms of learning processes, that require a corporate curriculum which entails seven learning functions that promote the ongoing transition of relevant information into new competences and ultimately leading to gradual improvement and radical innovation of work processes, products and services. Knowledge productivity as the growth engine for value creation is fundamentally engrained in a creative learning culture.

We also reasoned that traditional managerial command and control types of leadership with firm power positions will not contribute to such learning culture. The focus will be foremost on self-directedness, autonomy, emancipation and distributed manifestations of leadership. Knowledge productivity prospers in a social environment with room for experimenting, developing subject matter expertise, reflection, artistry, unleashing the talents of each of the team members, who trustfully care for each other and show respect. The currency of social capital linking professionals across organisations and disciplines enables the connections for creative learning. The seven functions of the corporate curriculum are helpful for analysing the existing learning culture and provide directions for improvement.

2. Which are the relevant design principles for developing a learning culture supportive for innovation?

The results of a series of well documented empirical studies conducted in Europe and Asia provide evidence for a set of policy directions and design principles for deliberately promoting a creative learning culture for knowledge productivity. Often, the starting point for innovation is an urgent matter that needs to be addressed. Then the initiator, not necessarily the formal manager, with a strong personal drive to find a solution needs to experience room and autonomy for connecting with likeminded spirits and bringing together relevant subject matter expertise for experimenting, critical investigation and reflection. The current corona crisis offers inspiring examples of how staff members take initiatives to undertake innovative projects from working at home, connecting with colleagues, not in need for managers and offices. Similar innovative behaviour can be observed in formal education, where teachers find new solutions to supporting their pupils in their home learning.

It seems that organisations and schools with a well-developed professional learning culture find it easier to act in a knowledge productive way than workplaces that are still dominated by strong hierarchical structures, obedience, and formal rules and procedures. It is not the control mechanisms that make professionals move, but the personal drive and intrinsic motivation to achieve exceptional goals. It appears worthwhile to invest in communication skills which facilitate the open exchange of opinions, creating a collaborative working

atmosphere and supporting both collective learning and the building of trust embedded in a safe learning environment.

References

1. Akçomak, I.S. (2009): *Bridges in Social Capital: A Review of the Definitions and the Social Capital of Social Capital Researchers,* UNI-MERIT working papers, Nr. 002, pp. 1-3

2. *Becker, G. S. (1993). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education (3rd ed.). University of Chicago Press.*

3. Drucker, P.F. (1993). *Post-capitalist Society.* Oxford: Butterworth-Heineman Elsevier Ltd.

4. De Jong, T. (2010). *Linking Social Capital to Knowledge Productivity. An Explorative Study on the Relationship between Social Capital and Learning in Knowledge Productive Networks,* PhD thesis, Enschede: University of Twente.

5. De Jong, T., Verdonschot, S.G.M., & Kessels, J.W.M. (2012). Shop assistants as instigators of innovation: analysis of 26 innovation initiatives in 17 Dutch supermarkets. *Int. J. Strategic Change Management,* 4 (1), 32-51.

6. Kang, S.J. (2015). *Leadership, organizational culture, knowledge productivity and value creation in four successful Korean companies.* PhD thesis. Enschede: University of Twente.

7. Kang, S. J., Kessels, J., Lee, E. S., & Cho, Y. S. (2014). The development and its validation of knowledge productivity and value creation. *Journal of CEO and Management Studies,* 17(3), 23–43.

8. Kessels, J.W.M. (2001): Learning in Organizations: A Corporate Curriculum for the Knowledge Economy. *Futures,* 33, 479-506.

9. Kessels, J.W.M. (2004). The Knowledge Revolution and the Knowledge Economy. The Challenge for HRD. In: J. Woodall, M. Lee, & J. Stewart (Eds.): *New Frontiers in HRD* (pp. 165-179). London

10. Kessels, J.W.M., & Poell, R.F. (2004). Andragology and Social Capital Theory: The Implications for Human Resource Development. *Advances in HRD,* 6, 146-157

11. Kessels, J.W.M., Verdonschot, S., & De Jong, T. (2011) Characteristics of learning environments which support knowledge productivity and which facilitate innovation. In IPOB (ed.) *The future of knowledge intensive service work* (pp 221-232). Marburg: Metropolis-Verlag.

12. Kessels, J.W.M. (2018). Ecologie van de professionele ruimte. [Ecology of a professional space]. *Pedagogische Studiën,* 95, 220-226

13. Kessels, J., Berghs, G., & De Jong, T. (2019). *Masters & Apprentices: breathing together. A rich learning experience for organizations?* Proceedings EAPRIL 2019 Conference, University of Tartu, Estonia.

14. Stam, Chr. (2007): *Knowledge Productivity. Designing and testing a method to diagnose knowledge productivity and plan for enhancement.* PhD thesis. Enschede: Twente University.

15. Verdonschot, S. (2009): *Learning to Innovate. A Series of Studies to Explore and Enable Learning in Innovation Practices,* PhD thesis, Enschede: Twente University.

16. Woolcock, M. (2001). The Place of Social Capital in Understanding Social and Economic Outcomes. *Canadian Journal of Policy Research,* 2, 11-17