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Understanding the evolution of the forms of carrying out human resource development

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ABSTRACT

The forms of human resource development (HRD) have mostly been defined through categorizing similarities among the roles, goals, methods, and theoretical foundations of empirically observed HRD practices. However, this kind of empirical generalization fails to explain how these forms have emerged and how new forms of carrying out HRD develop. This article focuses on these questions. Its purpose is to show how the emergence of new forms of carrying out HRD can be explained on the basis of an activity-theoretical, evolutionary approach. This approach views changes in HRD as processes of 'retooling' that take place as an interplay between the emerging developmental challenges in production and the available HRD theories and methods. The conceptual tools provided will thus also help researchers and practitioners assess the requirements and possibilities for developing new forms of realizing HRD that match the complex challenges posed by the current economy. A case analysis is used to demonstrate the approach and its superiority over the classification of the types of HRD practices for understanding the variation in the forms of carrying out HRD and their development.

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Introduction: the conspicuous absence of change dynamics in HRD research

This article aims to show how the change and development of both the existing and the possible new forms of carrying out human resource development (HRD) could be understood and studied. Different forms of training have been essential for human evolution from time immemorial (see, e.g., Swanson and Holton 2009). The history of HRD as a special practice related to organizational management is, however, much shorter. Its emergence is tied to the birth of large-scale industrial mass production (Lee 2014). For as long as the field has existed, researchers have, however, debated its nature and role. Those who see HRD as a distinct profession have tried to establish a pronounced theoretical identity for it (Zahn 2001; Ruona 2016). As a field of study, however, HRD 'remains segmented, incomplete, lacking comprehensiveness and coherence' (Hamlin 2007, 42).

HRD research typically focuses on the description and empirical classification of the characteristics of the existing forms of HRD and embodies a fairly unquestioned separation of the HRD function from other organizational functions and the organization's

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system of production and its management as a whole. Attempts to define HRD have mainly focused on searching for universal characteristics common to all instances of HRD, such as the typical roles, goals, outcomes, or theoretical foundations of HRD practices (see, e.g., Sambrook and Stewart 2000; Hurt, Lynham, and McLean 2014). The core elements of HRD identified in most studies are the learning, development, change, and performance improvement of individuals and organizations (Hamlin and Stewart 2011; Ruona 2016). However, these elements do not differentiate HRD from many other organizational activities. For example, Ruona (2016) notes that there is no specialized expertise that HRD practitioners can claim *only they* can perform. In fact, the general knowledge and competency areas of HRD and other related fields are increasingly overlapping (Ruona 2016).

These ways of defining HRD are typical of positivistic research, which establishes generality by exploring similarities and causalities among a large number of observations of the object of study. The same approach is also used in studies of the history of HRD, which typically focus on HRD methods and divide them into a few distinguishable methodological lines. For example, Garavan, Heraty, and Barnicle (1999) derive three models of HRD from the literature: HRD as an organizer of reactive training and an implementer of solutions; HRD as a competency-oriented internal consultancy; and strategic HRD. Torraco (2016), in turn, identifies two historical lines of HRD, the task-oriented 'training and development line' (T&D), which essentially relies on training needs assessment and different instructional designs (see, e.g., Kraiger 2014), and the collaboration-oriented 'OD line', which is based on the approaches of Organization Development and typically focuses on changing the attitudes and behaviour of individuals and groups (see, e.g., Beckhard 2006 or Bushe and Marshak [2009]). These types of studies acknowledge the effects of economic, societal, and technological developments on HRD, but their analyses remain on a general level (see, e.g., Lee 2014). However, an increasing concern has been whether HRD is able to renew itself to meet the challenges of the rapid development of the global economy and new technologies, which are 'interrelated, complex and highly systemic in nature' (Chermack, Lynham, and Ruona 2003, 263).

Tsoukas (1989) argues that studies that look for empirical generality of phenomena are incapable of revealing the actual, contingent manner in which systems interact and give rise to observed phenomena. This type of research is thus incapable of explaining how different forms of a phenomenon have emerged and how they develop. From this follows that the above described way of studying HRD does not give adequate means for anticipating the concrete, systemic development of HRD. The question this article purports to answer is, what are the systemic relationships involved in HRD that *explain the evolutionary dynamics* of the practical forms of carrying out HRD and engender the changes in these forms. The purpose of this article is to provide a robust theoretical basis and methodology for and an example of such an analysis and to discuss its generalizability and implications.

From description to explaining the evolution of the forms of carrying out HRD

This article takes a realist idiographic perspective, according to which 'generality is a property of the *necessary relations in real structures*, not a feature of the empirical

domain' (Tsoukas 1989, 551, italics added). Methodologically, this means that the dynamics of change and the development of a system cannot be revealed through the identification of common features in several cases, but through a thorough analysis of one, concrete case, in which the mechanisms that generate and reproduce the different forms of the system are at play. In this article, a model is first formed on the basis of the cultural historical activity theory (Vygotsky 1978; Engeström 2015) of the 'necessary relations' that explain the development of the form of realizing HRD in an organization and provide means for assessing its future potential. The model is then tested by applying it to explain the changes in the form of carrying out HRD in one organization.

First, I explain the basic concepts of activity theory and how they can illuminate the study of HRD and the development of its different concrete forms. Then, I present the analysis of the evolution of the forms of HRD in a Finnish road-building company. After this, I offer a conceptual summary of the HRD evolution in the case organization in relation to the historical ideal types of production (Engeström 1995) to generalize the observations uncovered in the analysis. Finally, I discuss the findings and their implications and conclude by evaluating the contribution of the study to HRD research and practice.

The cultural historical activity theory is based on dialectical ontology, according to which systemic internal interactions explain the qualities and change of phenomena (Tolman 1981). In this approach, to understand the developmental dynamics of a phenomenon, instead of merely identifying the features that are common to all instances of its occurrence, one has to (a) discover the conditions of its emergence, (b) establish its place and role in the system of interacting phenomena in which it is realized, and (c) specify the features that make it possible for the phenomenon to play its role in the whole (Ilyenkov 2008, 177). The emergence of large-scale functional organizations, mass production, and standardization led to a situation in which the traditional form of 'learning by doing' was no longer adequate for acquiring the mastery of the increasingly standardized work methods. A specialized form of HRD for enhancing the mastery – both collective and individual – of work and production was needed. Its role was to provide workers with specific knowledge and methods *created outside* the local productive activity and *prescribed* by management to enhance work mastery and efficiency (Lee 2014). Thus, 'the system of interacting phenomena' within which HRD first emerged as a specific form of organizational activity consisted of mass production and its management. Changes in this system explain the emergence and development of the various forms of HRD, which, like the offspring of an ancestor, shares a common origin but not necessarily other features.

To specify the features that make it possible for HRD to play its role in the system of production and its management, I analyse HRD as an *object-oriented activity* (Leont'ev 1978; Engeström 2015). The concept implies that HRD activity exists on two levels: (a) as local systems of carrying out HRD, and (b) as general theories, models, methods, and instruments of HRD. Both levels evolve historically and interact. The concept also makes a distinction between a *collective*, object-oriented *activity* and an *individual's* (or a group's) specific-situated *actions* to realize this activity (Leont'ev 1978, 63–74). The relationship between activity and action is hierarchical, though not deterministic: the same activity may be carried out through various actions, and any specific action may be part of different activities. Thus, HRD may, for example in the context of a small firm,

consist of occasional actions such as instruction, collaborative problem-solving, and joint planning conducted in the midst of supervision or production activity. In larger organizations, however, HRD is typically carried out through an institutionalized system of coordinated activity with established methods and instruments, oriented towards the development of the skills and competences needed for carrying out and developing the productive activity. Such an HRD activity can exist internally in the organization or as a separate business that sells HRD services for organizations. The defining feature of an activity is its object. The activity system as a whole consists of the instruments and tools used in the realization of the object, the community of actors engaged in the activity, and the rules and division of labour among them (Engeström 2015, 59–73).

The process that triggers the emergence and development of an activity is elaborated in Vygotsky's (1978) theory of the cultural mediation of human action. According to Vygotsky, people use culturally evolved tools as instruments for changing external objects, but also for controlling their individual and collaborative action. The mastery of an activity is thus essentially based on *instrumental acts*, that is, on the use of material and psychological instruments such as language, symbols, diagrams, models, problem-solving techniques, etc. (Vygotsky 1981). What makes the instrumental act particularly unique is the simultaneous presence of *two kinds of 'stimuli'*, an object (the first stimulus) and a tool/instrument for shaping, changing, and realizing it (the second stimulus). Vygotsky (1978, 72–75; Sannino 2015) calls this schema 'double stimulation'.

According to Vygotsky, double stimulation is especially at play when people acquire and create mastery over new actions and activities. Then, the first stimulus is formed by a problem, the solving of which exceeds the actor's present knowledge, skills, and tools. Such a situation paralyzes the actor's action and prompts them to seek new intellectual or practical instruments to find a new way in which to act. When such an instrument is found, the actor invests it with a new meaning that connects it to the problem at hand and uses it as a means to regain the mastery of the activity. The relationship between the object and the instrument is thus decisive in the development of an activity. In real life, the problem-engendering first stimulus arises when actors encounter challenges or contradictory requirements when pursuing the object of their activity. Potential second stimuli are provided by, for instance, the examples of other actors in the field, or theories and models presented in professional literature. The development of a new form of an activity is thus, in essence a 'retooling' process, in which also the object of the activity is reinterpreted (see Figure 1). A specific object–instrument relationship established in an activity defines the principle and form – *the model* – of carrying out the activity.

The development of different forms of HRD activity may be analysed as processes of 'retooling', which proceed through double stimulation from one established *HRD model* with a distinct object–instrument relationship to another (Figure 1). The first stimulus in this development is generated by a novel challenge in the mastery of productive work, which makes the prevailing form of HRD inadequate or obsolete and prompts the practitioners to search for new solutions among different available instruments as second stimuli. A novel principle of carrying out HRD, a new HRD model, evolves as new instruments are acquired to conceptualize and meet the challenge and to form a new object of HRD activity. However, neither the first nor the second stimulus is perceived by the actors in a straightforward or self-evident manner. A culturally available intellectual or practical instrument becomes a second stimulus only if the actor sees it as

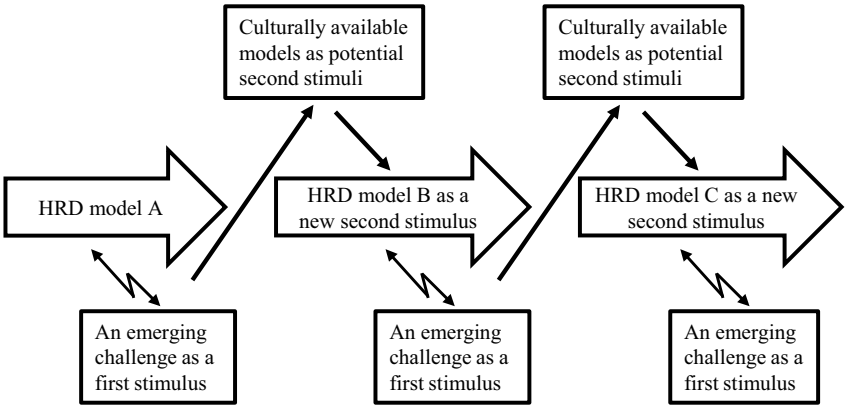

Figure 1. Evolution of HRD models through interplay of emerging challenges and potential available solutions.

a way with which to meet the encountered challenge and to regain mastery of the productive activity. What separates one HRD model from another is that it answers to a specific kind of challenge concerning the mastery of productive activity with specific methods and instruments.

An example of this type of analysis is provided by Bodrožić and Adler (2017) in their study of the evolution of management models within the technology-driven evolutionary waves of western industrial economies. Their analysis shows the dynamics, how the emergence of a technological revolution (Perez 2002) generates radically new organizational and management problems (first stimuli in Vygotsky's terms). The management models incorporating socio-organizational innovations in management, competences, and infrastructure, created as solutions to these problems (second stimuli), then take the form of a new organizational paradigm that eventually replaces the previous one. In the industrial revolution, craft was replaced by the first forms of mass production, which then in various versions dominated the twentieth century. What we are witnessing now is a transformation triggered by advances in information technologies and the corresponding management models.

Analysis of changes in HRD model in case organization

In the following, I analyse a concrete case of the evolution of HRD activity in a Finnish road-building company (later RBC). In the analysis, I use the theoretical idea of double stimulation (Figure 1) to identify the points at which a better exploitation of the previous established HRD model no longer adequately solves the challenges at hand and 'retooling' is required. The specific object–instrument relationship that defines an HRD model forms the unit of analysis. The analysis does not aim for a detailed history of HRD in the organization and all the factors affecting it. As explained above, it focuses instead on revealing the changes in the 'necessary relation' (Tsoukas 1989), in this case, the object–instrument relationship within the HRD activity.

The case organization RBC constructs and maintains traffic environments and provides infrastructure services in Finland. It was formerly a state agency that handled the

administration of public traffic routes and the government-subsidized construction and maintenance of the Finnish road network. In 1998, these main functions were first separated into two fairly independent sub-organizations: 'production' and 'road administration'. In 2001, the production organization was transformed into a state-owned road-building company, which was then privatized in 2014. Currently (2019), RBC employees about 1700 people.

The data comprise historical documents, studies, reports, and personnel magazine issues of RBC, the most essential of which are listed in the references (Levä 1993; KEHTO 1971, issues of the personnel magazine 'Tierumpu'), as well as several interviews and periods of participatory observations that I conducted at RBC in 2002–2008. Based on these various sets of data, I first wrote a rich chronological narrative of the parallel developments of Finnish road building, state administration and the HRD practices at RBC. I inserted details into the narrative as long as the picture of the object–instrument relationship of HRD at different periods of time sharpened. I also looked for the points of 'retooling'. At some point, however, the analysis 'saturated', and adding details did not change the picture. Then, through several rounds of revision, I encapsulated the different HRD models and the double stimulation that led to their emergence. The elements of the data included in the final narrative presented below, for example, the interview excerpts of RBC's HRD actors, are selected to point out the essence of each HRD model. Three former HRD managers and a training officer were selected as the best available informants for the interviews (see references for details). Two of the interviewees (HRD managers 1 and 2) read the analysis and confirmed it. None of them participated in this study in any other way.

Evolution of HRD models in a Finnish road-building company

Next, I show how the method of double stimulation can be used to explain the evolution of HRD models in the Finnish road-building company RBC. The headings in ***bold italics*** encapsulate the development from one HRD model to the next, and the headings in *light italics* explicate the double stimulation (Figure 1) that leads to the emergence of a new model.

1949–1972: from HRD as job instruction for rationalization to HRD as systematic task-based training

The first steps of formal internal training at RBC were taken after World War II, when road building was still predominantly manual work. Until then, the development of work practices in road building had been local and unofficial. As road building at that time was an important part of the government's job creation programme, RBC was obliged to also hire unskilled employees, and it became important to pay more attention to formal work instruction. In 1949, a rationalization department was established in the spirit of the age to investigate the most efficient work methods and plan job instructions. Personnel training was included as a component in the rationalization department's work. Training in the new work methods was organized for workers and also for foremen, who played a central role in disseminating the methods. The training was mostly technical, due to the nature of road-building work. The instructors were RBC's own experts. (Levä 1993) HRD thus emerged as job-instruction-type training actions within the rationalization activity – not yet as a specialized HRD activity.

First stimulus: expansion of the needs for learning new skills – second stimulus: systematic task-based training

Demands to improve RBC's efficiency and productivity grew in the 1960s. The amount of traffic on Finnish roads was growing, and the importance of road infrastructure was increasing accordingly. During the decades after World War II, advancements in road-building machinery meant that they gradually replaced manual work, transforming work practices. Early forms of information technology were also developing. Road-building was becoming a central activity in developing a modern society. In 1964, the Finnish Ministry of Finance initiated a project to modernize state agencies through enhanced cost management and performance control.

The expanding competence needs caused by the developments in both road production and administration were met by developing more systematic internal training practices. RBC hired its first training manager in 1960, who, with the help of rationalization engineers, organized training needs assessment surveys to track deficiencies in workers' and foremen's knowledge and skills and to help define the amount and nature of the training required. These inquiries were initial steps towards systematic training activity and a separate HRD function.

In 1969, the efforts to modernize and increase the efficiency of both production and administration were combined under a four-year project called KEHTO (an abbreviation of the Finnish word 'kehittämistoiminta' – development activity). This project consolidated task-oriented course-based training as a central way of developing work practices and workers' competence (KEHTO 1971). As a result, an HRD function was born at RBC. First, one of the KEHTO sub-projects was assigned to be responsible for planning training, then a permanent 'training group' consisting of a training manager and four training officers was established. The KEHTO project also introduced Management by Objectives (MbO) and decentralized decision-making to road districts. However, the economic recession following the energy crisis in the 1970s made the Finnish government once again tighten control over state agencies and the use of MbO was prohibited.

The main object of the new HRD activity was to detect gaps between workers' skills and task requirements through training needs surveys and, based on this knowledge, to coordinate expert groups of internal specialists for the delivery of solutions through training. The training consisted of two main lines: (1) knowledge transfer, through lectures, seminars, and self-study, and (2) skill development, through task-based exercises, case examples, and group assignments. The goal was to create a training structure that covered all tasks and career phases in the organization, including those of the top management. (KEHTO 1971; Levä 1993; Tierumpu 1973; 1975)

1973–1984: from HRD as systematic task-based training to HRD as professionalized training system

As the new HRD function now coordinated training, the training methods became more explicit and systematic (Tierumpu 1973). However, different vocational groups still organized a significant amount of training quite independently 'in the field'. In the 1970s, some of RBC's productive tasks were relocated to other state agencies, and the remaining tasks became more specialized. This specialization, along with the ongoing development of work methods and technologies, created new occupations. This, in

turn, along with the idea that 'every problem deserves a course', boosted by the training needs surveys, expanded the amount of annually organized short-term training events. Some training events were even used for recreation or as a reward. (HRD Manager 1)

First stimulus: inadequacy of task orientation to support vocational learning – Second stimulus: professionalization of whole training system

The quality of the expanded but scattered and unfocused training structure was considered low, and task-orientation began to look like an ineffective way to support learning and work development. The increasing dissatisfaction with the quality of the prevailing training structure initiated critical discussions on the quality and objectives of training, as well as on the trainers' proficiency and pedagogical skills at RBC. (HRD Manager 1, HRD Manager 2)

At the turn of the 1980s, the state training agency, which also provided services for RBC, began to offer courses to move from instructor-centred and behaviouristic education methods to more content-oriented didactics, which emphasized understanding the differences in learning contents when planning learning processes. Training specialists from RBC were sent to participate in the state training agency's cognitive didactics training (Engeström 1994), after which internal pedagogical training was arranged at RBC for several hundred experts involved in vocational training. This meant a qualitative leap in training (HRD Manager 1): the goals were set in more pedagogical terms and the best expert was no longer necessarily considered the best trainer, as had been the case since the time of rationalization. This contributed to the professionalization of HRD and the whole training system. In addition, the focus of HRD turned from task mastery to the mastery of a vocational practice.

> We got, like, long training programmes, where you could say, the focus was much more broadly on renewing vocational practices. (HRD Manager 1)

1985–1997: from HRD as professionalized training system to HRD as collection of competence development methods

In the mid-1980s, a new phase began in the development of state agencies. The examples of managing activities were now derived from the business sector and market-based ideologies. In 1988, the Ministry of Finance chose RBC as a pilot organization along with a few other agencies to test a new budgeting system based on Management by Results, to solve the problems of bureaucratic budgeting. The fact that the organization had previously tried MbO facilitated the adoption of the new practices. The shift towards business thinking, a general trend in the public administration of OECD countries in the 1980s, was explicated in the New Public Management doctrine (Yliaska 2014). It led eventually to the separation of the productive activities of the organization into a state-owned company. The first concrete step was a shift to a profit centre organization in 1993, as RBC's central administrative office was divided into service units, which charged the production units for services such as training and development. Then, in 1998, road production was organizationally separated from road administration.

The HR developers played an active part in creating a new knowledge base for understanding business. (HRD Manager 1) The new training programmes introduced business administration and change management to managers, and gradually also to workers. This was fostered by the new concepts of 'competence development' and 'core competences'. The

training group was renamed the 'personnel development group' to emphasize the broader object of HRD. (Tierumpu 1991, 1994, 1995) At the same time, however, the widely accepted idea that 'the central administration knows best' also grew stronger (Training Officer 1). The road districts typically sent as many employees to the courses as the district-specific quotas allowed, regardless of how acute the local need for training was. In retrospect, RBC's HR developers described the training system as 'the central administration's course factory'. Thus, in practice, the profit centre model with services driven by need was not fully implemented in HRD.

First stimulus: crisis of 'course factory' – various second stimuli for new HRD model

The contradiction between (a) the increased need for flexibility and cost-effectiveness that was manifested in the profit centre organization and (b) the centralized 'course factory' model of HRD culminated, as the separation of the production and road administration organizations approached. The fact that the government was going to first cut down and eventually stop ordering from RBC without competitive bidding forced the organization to reduce personnel. The extensive, centrally led and insufficiently needs-based course system was gradually run down.

The HR developers and the management started to experiment with new approaches to developing and managing competences. Many of these they found from within the Organization Development (OD) tradition and 'learning organization' approach. Teamwork, which spread in Finnish organizations in the 1990s, represented this type of solution. Teamwork was supported by a change coach and team-building training of over 200 employees in 1996. The change coach approach taught the organization that developmental actions can be taken in teams without the need to send people to separate learning events (Training Officer 1). It was not, however, a huge success. The newly trained coaches could not link the team-building methods sufficiently to the ongoing strategic change. According to a contemporary HRD manager, the idea of change coaches was good, but the tools for facilitating group processes did not offer a sufficient analytical basis for renewing work practices (HRD Manager 2). Eventually, only a fraction of the trained coaches used their new skills in practice.

Thereafter, various ideas arose regarding HRD's direction. Some developers wanted to maintain the historically strong orientation towards workers' vocational competence, others emphasized team dynamics. Some contemporary HR developers describe this time as 'methodological chaos', during which methodological choices were poorly justified. In addition to the shortcomings of the team facilitation methods to provide understanding of the ongoing change, business thinking in HRD lacked true incentives, until the official separation of the two organizations in 2001. Eventually, the former personnel development group and some of the most work development-oriented change coaches formed a new 'competence development team', whose professional orientation was linked to business development:

> In my opinion, we're consciously looking for ways to incorporate competence development practices into business development. In other words, competence development has no other role than to enhance our competitiveness. (HRD Manager 3 in 2002)

On-the-job learning became anew the main approach for developing workers' vocational skills. Course-based training was provided only in exceptional cases. Three main objects emerged for the HRD function: (1) coaching programmes for middle and top

management on leadership, interaction, and self-reflection – aspects central to OD; (2) IT-supported systems for competence mapping, performance appraisals, and career planning to support individual competence management, and (3) tailored change-facilitation projects for production teams. Developers' interests dispersed between these objects, all of which reflected a slightly different approach to HRD. The third object was pursued by only a few developers, who engaged in co-developing new change facilitation methods with an external research community.

1998–2009: from HRD as collection of competence development methods to outsourced HRD

The new RBC was progressively transformed into free competition over a four-year transition period. The organization learned to handle competitive biddings and negotiations with external customers, and at the same time, lean production and digitalization were transforming the planning and delivery of road projects. Thus, the transformation also reflected the broader change in technologies, organizations, and society (Dunleavy et al. 2006). The top management wished to strengthen the link between HRD and strategic management. First, the competence development team prepared an HRD strategy, then aspects of competence development were incorporated into all the central strategies. In 2002, a top management steering group was established to coordinate developmental activities on a strategic level. In 2005, the competence development team was transferred from the HR unit to the corporate planning unit.

However, an integral new HRD model never emerged. Some competence developers continued developing their roles as internal change facilitators, linking their work to changing business and co-creating new methods with external partners. The majority, however, focused on refining OD-based managerial coaching and individual competence management. At the same time, the pressure to develop strategic HRD increased. After 2005, RBC went through several organizational changes and the top manager responsible for competence development changed a few times, creating discontinuity in the management of HRD. The services of external consultants were increasingly used. Eventually, at the end of 2009, RBC in effect outsourced its HRD function, as most of the internal competence developers were dismissed.

Relation between the types of production and HRD models at RBC

The evolution of the HRD models at RBC can be summarized by connecting it to the historical development of the types of production and their management. According to Adler (2009), the historical development of the types of production embodies a process of 'socialization of the forces of production', which means that 'increasingly differentiated, specialized branches of activity are conjoined in an increasingly interdependent global economy'. In practice, this is visible in the continuing complexification of the social division of labour and in the growing need for global cooperation. Being part of a shared economy creates pressure, firstly, to increase the *collectivity* of production by deepening specialization and the division of labour (economies of scale); and secondly, to increase the *flexibility* of production to meet the changing needs of customers and global markets (economies of scope).

The challenge of increasing collectivity and flexibility in production is incorporated in Engeström's (1995, 28) model of the ideal types of production (Figure 2). In traditional craftwork (Type 1 in Figure 2), communities are typically small and centre on specialized products. Work methods are passed forward as trade guild secrets, and product development is slow. Mass production models can be separated into two traditional types: classical mass production based on managing standardized products and practices in a hierarchical, functionally divided organization, which presumes striving for collective, centrally controlled goals (Type 2), and market-oriented mass production, in which production units have independent (and sometimes even competing) goals, and production, albeit in essence mass production, varies more flexibly according to customer types and needs (Type 3). The fourth field contains production models typical of the IT era that combine the economies of scale and scope – high collective interdependence and flexibility in varying production and products (Type 4). These models surpass the rigidities of the Type 2 bureaucratic organization and the dispersion of the Type 3 market-based organization.

Engeström's model also illuminates the development of HRD models at RBC. Before the postwar rebuilding of Finnish society and the mechanization of road production, road-building practices were learned in a craft-like way, locally and unofficially (HRD model 0 in Figure 3). The first official training practices as job instruction were developed in tandem with efforts to rationalize and standardize work (HRD model 1). The rising challenge in the growing organization was to teach workers the best working methods and increase the level of *collectivity* of the work practices. Training was engineer led and not yet a specialized HRD activity.

A specialized HRD function was developed in the form of a training department in tandem with managerial attempts to make the bureaucratic organization more efficient. The centralized task-based training centred on the identification of individuals' performance and skill gaps relative to the work standards, and on the delivery of systematic training to fill these gaps (HRD model 2). This core expertise differentiated HRD from other specialized functions in the organization. However, as road-building professions

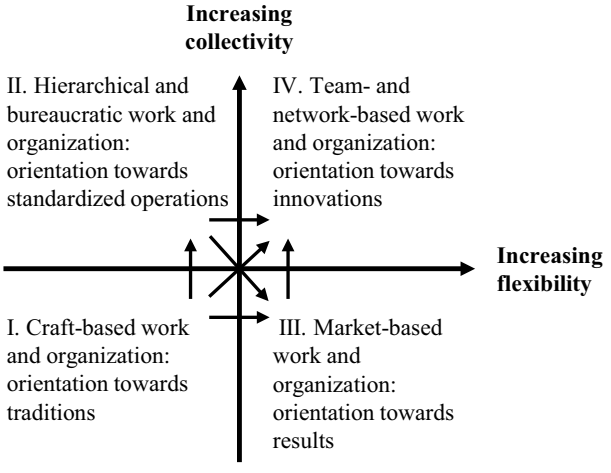

Figure 2. Ideal types of production in terms of collectivity and flexibility (Engeström 1995).

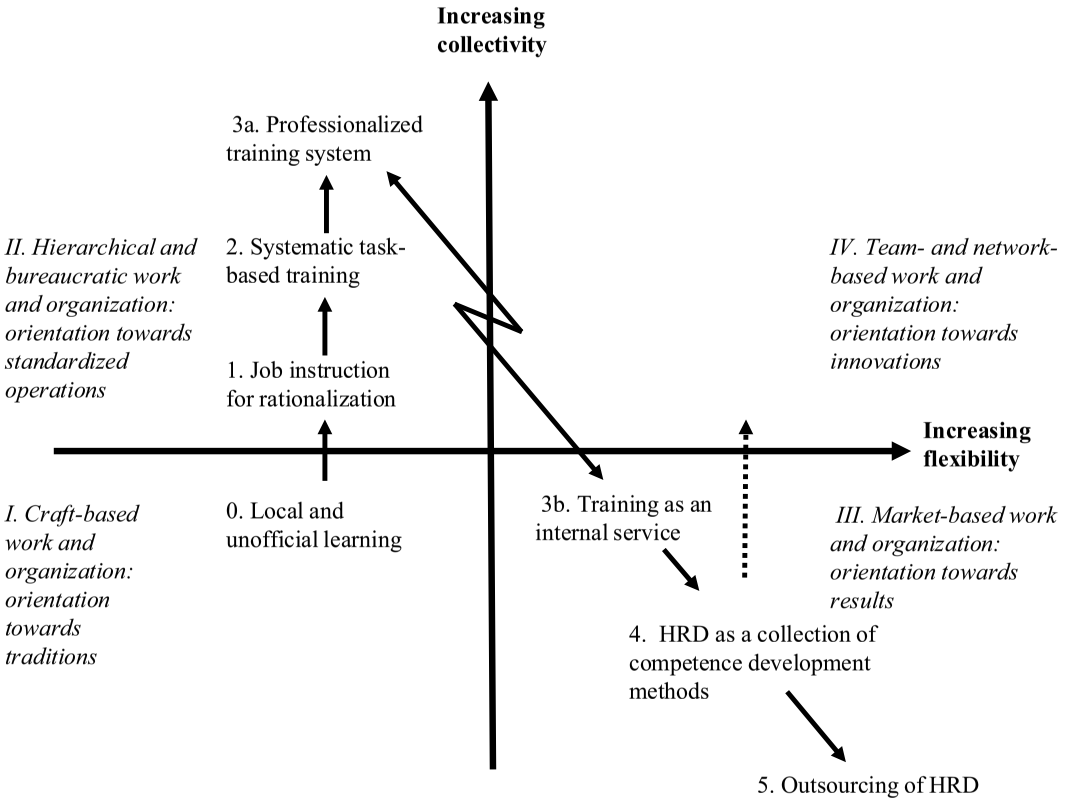

Figure 3. Evolution of RBC's HRD models in relation to ideal types of production and pressure to increase collectivity and flexibility in production.

became more specialized, the training needs assessment surveys tended to reveal more needs than were in fact essential for the organization, increasing the amount of training but reducing its quality. This problem was solved by professionalization of HRD through increasing the pedagogical specialization of trainers and the centralized coordination of the whole training system. The management solution for the dysfunctions of the bureaucratic organization was, however, different: to delegate power and increase local mastery through profit centre organization.

A contradiction emerged: the HRD model rested on the traditional, bureaucratic idea of a centrally led training system (factual HRD model 3a), although the management model aimed at increasing market-based *flexibility* and presupposed quicker responses to the developmental needs emerging in production (HRD model 3b the profit centre organization pursued). Eventually, this contradiction culminated when RBC's projects began their shift to competitive markets, generating 'methodological chaos' in HRD. The endeavour to train internal change coaches was one attempt to find a new HRD model. However, the OD-based team-building methods that focused on collaboration, as abstracted from the content of the production activity, did not provide adequate tools for analysing the ongoing change.

The HRD function became an eclectic assembly of different methods working on slightly different logics. The managerial coaching programmes positioned HRD close to business management but lacked a link to strategy-making as the OD-based emphasis was on collaboration and leadership, not on the core contents of business. The competence management systems continued along the traditional line of supporting individual competence development. The tailored change-facilitation projects for production teams and the methodological development that some developers pursued through external networking had novel strategic potential to support the collective renewal of production work to endure the rapid organizational transformation (dashed arrow in Figure 3). However, these experiments remained isolated, and bound to single developers. Compared to the days of the 'course factory', HRD gradually dispersed from structured and collective HRD activity to separate HRD actions and methods under the common denominator of competence development (HRD model 4). What seemed to be an increase in the variety of HRD services and the flexibility of managing change actually led to the loss of the shared object and structure of HRD activity that would have integrated the diverse initiatives. Management, on the other hand, needed to meet an increasing amount of specific developmental needs in restructuring the organization and helping the transformation in production. This was managed by the increasing use of external consultants, leading eventually to the outsourcing of most internal HR developers (HRD model 5).

Discussion: implications for HRD research and practice

The purpose of the analysis was not to create generalizations of the development of HRD based on the specific changes that happened in the case organization, but to demonstrate how a local HRD model develops in the interaction between the local HRD challenges and the available HRD models that exist in the literature as generalizations of concrete solutions created elsewhere. The typical descriptions of different

HRD solutions in the literature usually abstract from the specific challenges that led to their emergence. They are presented as general solutions for meeting a great variety of HRD challenges. The original conditions exist, however, in the solutions as silent, unexplained assumptions concerning the conditions of their application. Thus, the traditional, centrally organized, training-based HRD (models 2 and 3a) in essence follows the logic of mass production. It works as a solution in fairly stable environments and serves the purposes of large-scale, bureaucratic organizations with functional organization running standardized production. It assumes firstly that there are general, context-independent, 'correct' solutions that can be delivered through training, and secondly that individuals, separated from their work context, can learn these solutions on courses and apply them in their individual work. However, managing work and organizations has evolved towards ever-broader objects, and increasing complexity and interconnectedness (Bodrožić and Adler 2017). The demand to engage in the collective development of new work activities and to respond to increasingly interlinked competence needs means that there is *an increasingly smaller number of general solutions* that HRD can transfer through training and individual competence development. Arguably, at RBC, this first generated the exhaustion of the 'course factory' model and then the shift to the outsourced HRD to ensure flexible acquisition of specific solutions.

The evolutionary approach also enables us to understand the challenges and problems that the functionally separated HRD encounters in the current economy. As Figure 3 implies, the present forms of HRD should contribute to the flexible development of highly interdependent and collectively managed solutions (upper right-hand corner in Figure 3). In the transformation to business, the management at RBC also faced a growing challenge to find new ways with which to analyse the rapidly emerging developmental needs in production and to create new collective ways to manage them. Neither the professionalized training system with distinct methods for delivering general solutions for individual development, nor the OD-based methods for team-building and coaching that focused on the collaborative aspects of work only and provided no analytical view to manage change were, however, adequate in solving this. T&D and OD offer methods for conducting HRD to answer certain pre-defined or definite developmental needs but not for analysing emergent objects of development and developing new tailored forms of HRD to match these objects. HRD conducted by external consultants solves the problem of flexibility in acquiring new solutions but does not offer a way to build a new sustained and collective form of development. A form of carrying out HRD that achieves all these goals cannot focus on the delivery of ready-made solutions, nor can it abstract the content of learning from the concrete challenges in productive work. It has to provide a methodology for the collective analysis of the current developmental challenges in production and the development of a new integrated solution that meets these challenges, which also involves methods for learning to accomplish the created solution.

Conclusion

This article aims to explain the evolutionary dynamics of the forms of carrying out HRD and to unveil the relationships that engender changes in these forms. Using the

activity-theoretical principle of double stimulation, it provides a method for analysing the evolution of the forms of HRD in an organization as an interplay between (1) the form of production and its management that create needs for HRD, and (2) the culturally available solutions to these needs through which the objects of HRD are conceptualized and defined. The case analysis that demonstrates the use of this principle shows how, amidst the general economic, societal, and technological development, the object of HRD at RBC expanded from teaching work methods to managing competences and change on an expanding scale and scope. However, when the potential of HRD as traditional training became exhausted, the endeavour to rebuild HRD as a semi-independent activity system with a sustained object proved difficult in the new environment, in which developmental challenges were in flux. The main methodological domains of the profession, T&D and OD, both abstract and separate their object from the evolution of the productive activity, leaving its analysis to management. Thus, the traditional HRD domains failed to provide a collective structure or methods for the flexible renewal of work practices and the related competences. Instead of a semi-independent function offering general solutions, HRD is increasingly needed in production as an area of theoretical and methodological knowledge for building a collective mastery of changing work.

Furthermore, the analysis shows the inadequacy of the typical approach to HRD research, which focuses on identifying and describing the already available HRD methods. General methods are, however, always first born to solve specific, local problems, and only later copied and disseminated to other contexts. If the analysis of their emergence is ignored in research, their potential scope will remain obscure. This will only lead to a situation in which, as Edmondson (1996) argues, 'most practitioners carry a hammer, and assume the presence of nails'. The present developments in technologies and the economy generate challenges that no general methods have yet been developed to overcome. Thus, HRD research needs to focus on the development of new HRD solutions in collaboration with HRD practitioners and other organizational actors, especially those who need to master the changes in production. This requires methods for thoroughly analysing the developmental challenges and potentials of the productive work. Such methods would also enable HRD practitioners to contribute to strategy-making activity, instead of being a mere support function in strategy execution, as also highlighted in the critical HRD approach (see, e.g., Callahan et al. 2015). This requires that the strategic development of organizational activities is seen as a shared object of various actors, including HRD. This in no way means the loss of humanistic values or the people orientation of HRD; it is a precondition for their concretization.

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Interviews

HRD Manager 1, in office in the 1980s, interviewed in 2007
HRD Manager 2, in office in the 1990s, interviewed in 2002
HRD Manager 3, in office in the 2000s, interviewed in 2002
Training Officer 1, in office in the 1980s–2000s, interviewed in 2002