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Understanding Relations of Individual– Collective Learning in Work: A Review of Research

Abstract *A review was conducted of literature addressing learning in work, focusing on relations between individual and collective learning published in nine journals during the period 1999–2004. The journals represent three distinct fields of management/organization studies, adult education and human resource development; all publish material about workplace learning regularly. In total, 209 articles were selected for content analysis, containing a range of material including reports of empirical research to theoretical discussion. Eight themes of individual–collective learning were identified through inductive content analysis of this literature: individual knowledge acquisition, sense-making/reflective dialogue, levels of learning, network utility, individual human development, individuals in community, communities-of-practice and co-participation or co-emergence. The discussion highlights similar issues stated in the different journals about understanding individual–collective learning, the apparent lack of dialogue across the fields, the ontological and ideological differences among the themes of learning currently in circulation and the low frequency of analysis of power relations in the articles reviewed. **Key Words:** community-of-practice; co-participation; organizational learning; work learning*

Introduction

Studies in ‘workplace learning’¹ arguably have expanded in volume of publication and diverse perspectives in the past decade (Bratton et al., 2003). Broadly speaking, these might be described as concerned with processes of development, movement and change in knowledge and practices that occur within particular activities and organizational arrangements of paid work. A wealth of workplace learning scholarship has accumulated in the fields of organizational and management studies, sociology of work, labor studies, adult education, feminist studies, human resource development studies and vocational education research.

New understandings about the nature of learning processes appear to be emerging across these fields, and different issues and questions for research appear to be generating a wide range of empirical and theoretical research.

Given this diversity of research, it seems timely to take stock of its issues, assumptions and findings. To this end, a literature review was undertaken of workplace learning literature published in the six-year period 1999–2004. In 1999 the first international cross-disciplinary Researching Work and Learning conference was held,² bringing together scholars in organization studies, labor studies, adult learning, continuing professional education and vocational education and training. This and other recent interdisciplinary gatherings appear to be responding to converging scholarship and intensified proliferation of workplace learning.

The purpose of the literature review was to compare understandings of learning in and through work across fields. After examining all articles addressing workplace learning in the selected journals, it became apparent that a prominent topic occupying the majority of these articles concerned the relationship of individual and collective learning processes in work activities (see Table 1). The study proceeded to focus on this topic, examining particular questions about individual–collective workplace learning relations being asked in different fields, different theoretical traditions informing researchers and different methodological approaches adopted to explore these questions.

The researchers who worked on various portions of the review are all adult educators located in university faculties of education. Although understandings of learning varied among them, there was agreement that learning in work can involve formal or informal teaching but is practice-based and participative: embedded in action, not centered in an individual's head but distributed among activities, continuous interactions and relationships of people (and tools, texts, architecture, etc.) within a system. Learning can be understood as expansion of capacity for more sophisticated, more flexible and more creative action (Davis et al., 2000; Fenwick, 2001). From a critical educator's standpoint, learning is also understood to enhance people's individual and collective agency in their work activities, recognizing the contested nature of knowledge as well as the influence of the labor process and its related politics on learning processes and how they are understood, rewarded and controlled (Bratton et al., 2003; Livingstone and Sawchuk, 2003).

In the following sections are explained the methods and materials used in this review, and the findings. Contestation over terms and perspectives is evident, as are common themes. Eight specific theme categories are described, representing distinctions in researchers' conceptions of the nature of individual–collective relations in learning. The final discussion analyses these findings to examine key contributions to workplace learning research that have emerged in the past six years of journal publication. Fundamental theoretical differences are examined as well as questions left unaddressed. Apparent schisms are highlighted along with unacknowledged commonalities among different fields in which workplace learning studies are being pursued. The discussion closes with implications for future research suggested by these analyses.

Methods

The project set out to examine the literature about relations of individual and collective learning processes in and through work published in journals within the six-year period 1999–2004. This broad theme was chosen partly because it was the most pervasive among all the topics about workplace learning raised across the selected journals, suggesting strong researcher interest in the issue and the importance of this dynamic in organizations and work activities. Further, as analysis proceeded on this theme it became clear that its multi-faceted treatment in the literature embraced diverse subtopics, and reflected important positional differences among researchers. Thus the theme appeared to be sufficiently rich to warrant in-depth study. The frequency of the individual–collective learning theme is shown for each journal in Table 1, with the reminder that these counts are based on interpretive judgement and therefore must be considered approximate.

Nine scholarly journals were selected to represent audiences in diverse fields of workplace learning: management/organization studies, adult education and human resource development. Criteria for journal selection included that it must be refereed, international in scope and contain a high percentage of research-based articles. Potential journals for inclusion were determined by scanning authors' reference lists in recent books and conference proceedings related to workplace learning for frequently cited journal titles. In addition, academics in management/organization studies, adult education and human resource development were informally asked to name journals that they perceived to be particularly reliable and well-used sources for workplace learning literature in their fields. Articles were selected in issues of the following journals published in the six-year period between 1999 and 2004 inclusive (number of articles in review sample shown in parentheses): *Journal of Workplace Learning* (52), *Management Learning* (44), *Organization Studies* (16), *Organization* (9), *International Journal of Lifelong Education* (8), *Studies in Continuing Education* (21), *Studies in the Education of Adults* (7), *Human Resource Development International* (20) and *Human Resource Development Quarterly* (31). Articles selected for the data set included both empirical and theoretical papers that focused on topics clearly pertaining to *learning* (processes, dimensions, relations) in and through work. Articles pertaining more to educational programs, policies or general work conditions were not included. From a possible total of 1745 articles published in 1999–2004 in the nine journals chosen for this study, 343 articles focused on workplace learning. Of these, a total set of 208 articles or 61.5 percent were determined to address relations of individual and collective learning processes directly. Numbers of data set articles are contrasted with the total number of articles published in these journals in Table 1.

Each journal issue was initially examined through a reading of titles and abstracts to select articles that fit the data set. The content of each selected journal article was assessed in terms of specific concepts about individual–collective relations in learning. These concepts were analysed within other elements of each article: (1) the central research question(s) or problem guiding the study; (2) the author's overall purpose(s) or argument; (3) theoretical concepts or traditions

Table 1 Details of the data set

Journal	Total issues 1999–2004	Total articles 1999–2004	Total articles addressing workplace learning (<i>n</i>)	Articles in <i>n</i> focused on individual–collective learning (IC)	IC as a percentage of <i>n</i>
<i>Journal of Workplace Learning</i>	48	202	74	52	84
<i>Organization</i>	36	239	29	9	31
<i>Organization Studies</i>	54	398	28	16	57
<i>Management Learning</i>	24	170	65	44	71
<i>International Journal of Lifelong Education</i>	36	214	14	8	57
<i>Studies in the Education of Adults</i>	12	85	10	7	70
<i>Studies in Continuing Education</i>	16	108	25	21	92
<i>Human Resource Development International</i>	24	148	47	20	42
<i>Human Resource Development Quarterly</i>	24	216	51	31	64
Totals	274	1780	343	208	61.5

drawn upon to frame the discussion; (4) methods used; and (5) findings, including author's emphases (which findings were presented as most important to workplace learning knowledge). Summary descriptive comments for each category were entered into a database. Common themes were identified, and classifications were verified through re-readings of the articles.

Four main limitations in this study need immediate acknowledgement. First, the obvious limitation of journal-published research, which omits important books, conference proceedings (which can signal the most current or newly emerging ideas) and any studies blocked through referee processes that arguably reflect particular preferences and biases. Second, each journal appeared to have developed its own unique research priorities and purposes, drawing upon distinct histories and literatures. Thus the literature to some extent reflected the distinct community and conversation constructed by the journal that published it. A third limitation was the deliberate choice not to examine changing topics and issues over time for purposes of trend analysis. This was partly because in the early stages of analysis, different trends appeared to be occurring in different scholarly communities: to explore these with sufficient rigor required examination of other sources and contexts such as key texts and events, regional and cultural distinctions. A fourth limitation was that workplace learning topics become somewhat blurred in presentation: determining whether an article was more about individual–collective learning relations, program delivery or another topic was a careful approximation at best.

Practice-based theories were prominent across the journals, particularly in more recent volumes. Empirical research (most typically case studies) was more prominent in some journals than others, but overall increased proportionally over the six-year period. One form that was difficult to classify methodologically was reports of change intervention conducted by the researcher who then described what was done and what outcomes were observed. Such implementations are so circumscribed by organizational purposes, the researcher–consultant’s shaping of events, and emphasis on change outcomes that they cannot be properly considered to be case studies, which usually record patterns more inherent to the environment than to the researcher’s conduct. Literature reviews were infrequent, particularly systemic content analyses of distinct sets of literature. Far more common were typologies providing classification schemes for understanding existing literature, often based on broader theoretical classifications in the social sciences. Definitions or explicit statement of ‘learning’ were often lacking, despite wide apparent variance in this concept across the authors. As one reviewer pointed out, such definitions may get in the way of talking about events that occur around learning, but some confusion results when one term ‘learning’ represents phenomena ranging from individual information acquisition to cultural transformation or even political emancipation. Finally, a wide range of rigor in theorization and analysis was evident; some articles appeared to be premised more on assertion or asserted prescription rather than argument, literature or empirical findings.

Relations of Individual and Collective Learning in Work

Very different fundamental perspectives about the nature of workplace learning in general, and individual–collective workplace learning processes in particular, were evident across the articles. In part, some differences reflected schools of sociological theory such as those delineated by Gherardi and Nicolini (2000). However, key divergences also emerged according to authors’ conception of the ontological relationship between individual and collective, particularly in terms of the extent to which the individual is viewed as autonomous and distinct from social and cultural groups in work activity.

Eight distinct conceptual orientations to individual–collective relations in learning appearing in the articles were identified through data analysis, and are outlined later. Although there are ways to combine these further to reduce the number, certain important nuances in perspectival distinctions might be lost. In each category description, the percentage of articles assigned to each category is shown as a proportion of the whole data set. These figures are not presented as a table as this assignation can only be considered approximate and interpretive.

1. Individual Knowledge Acquisition

In the acquisitive perspective, learning is characterized as an individual human process of consuming and storing new concepts and skills/behaviors, frequently in terms of translating learning to capabilities that add to organizational resources (Nafukho et al., 2004). This perspective was present in all journals except two,

and appeared to be the dominant perspective in 34 articles or about 16 percent of the data set, although the frequency decreased after about 2001 in all fields except human resource development. Research has focused on how to ‘harness’ or draw out and use the individual’s acquired knowledge. Preoccupations include transferring acquired knowledge to practice, measuring competency (reliable valid measures and competence definitions are identified as problematic) and narrowing the gap between training investment and results (Bates and Holton III, 2004; Enos et al., 2003; Weithoff, 2004). Notions of tacit knowledge also tend to use this individual acquisitional orientation, conceiving learning as a process of making explicit the knowledge and skill that has already been acquired by an individual and imprinted within that person’s behavior. When the knowledge becomes explicit or articulated it can be passed to, acquired by, another. Interestingly, this perspective also emerged in arguments portraying literacies and identities as processes of individual knowledge acquisition (Morris and Beckett, 2004). Much workplace learning research also employs the assumption that individuals acquire knowledge cognitively, for example, by listening to information presentation, then apply it to practice, in a sort of ‘transfer’ process from mind to hands.

Despite what has often been described as a general shift to more practice-based, participative conceptions of learning (Gherardi, 2000; Hager, 2004), where boundaries between individuals and objects are considered mutually constitutive and learning is viewed as relational knowledge production rather than mentalistic acquisition, the conception of individual knowledge acquisition persists even in the most recent workplace learning research.

2. Sense-making and Reflective Dialogue

Appearing in 14 articles or about 6 percent of the data set, the sense-making theme emphasizes learning as reflective meaning-making, through language. Learning is an individual and collective construction of (new or altered) meanings: to identify problems, create solutions or engage in collective inquiry. Research focuses on the nature of reflection, and what factors influence particular meaning constructions at work (Svensson et al., 2004). The collective is viewed as a prompt for individual critical reflection, a forum for sharing meaning and working through conflicting meanings among individuals to create new knowledge. Further, the collective molds particular meanings among workers (such as accepting the opinions of those in power). Yet individual intentions shape the meanings they bring to the collective (Jørgensen, 2004). A number of studies take up storytelling for workplace learning: building the collective, helping it to appreciate issues, confront counter stories, reconstruct canonized stories and name its experiences (Abma, 2003). However, researchers critical of sense-making ideas show the rarity, in practice, of group critical reflection, dialogue and inquiry. Individuals become disillusioned with such practices (Snell, 2002), and the notion fails to sufficiently account for power relations in workplaces and knowledge hierarchies – including those created by researchers.

3. Network Utility

In 19 articles or about 9 percent of the data set, learning appeared to be portrayed as a series of utility networks. Individuals and teams transmitted useful

strategies through networks within and across organizations, often electronically enabled, primarily for the purposes of improving others' performance. Learning is thus conceptualized as receiving information that moves around in a linear fashion: the information itself is portrayed as remaining undisturbed by its movements or by the tinkering of the individuals and groups that receive it. The key research preoccupations are improving knowledge 'transfer' or diffusion: 'capturing', managing and organizing content, removing network barriers and generally facilitating efficient, effective information flow or 'knowledge transmission' (just-in-time) through a network. Learning networks are reported to take different shapes related to contexts, work characteristics, interactions, actor dynamics and strategies; interorganizational networks are the most complex and take long periods to develop. Organizational architectures are urged to facilitate information networks linking teams. However, different forms of knowledge move better through particular networks; innovation, for example, is best spread through dense interconnected social networks (Brown and Duguid, 2002). Different forms of communication also affect information movement, from 'dyslogistic' (everyday interaction) to 'eulogistic' (Letiche and van Mens, 2003). Most other findings reported in this data set are related to sociocultural issues. Individuals and teams are willing to share if sharing is valued and supported; and if the organization restructures pay-offs for contributing, increases efficacy perceptions and makes employees' sense of group identity and personal responsibility more salient (Cabrera and Cabrera, 2002). Individuals share more effectively if they first specialize their knowledge. Micro-politics inhibits free knowledge sharing, affects what information is shared and what is perceived as actual and desired performance (Currie and Kerrin, 2004). Overall, social dynamics are agreed to affect network effectiveness far more than technology. Critique of this network transmission model focuses on its linearity, rational conception of knowledge and the tendency to separate knowledge from activity (Wood and Ferlie, 2003).

4. *'Levels' of Learning*

In 17 articles or 8 percent of the data set, the organization and individual (and team) are viewed as separate, distinct levels and forms of learning, not intertwined or co-participational. This leveled depiction is similar to the network utility theme but emphasizes boundaries between learning units, regions and actors, and examines how these affect (inhibit or afford) flow of knowledge. And unlike the network theme, this conception extends beyond the linear transmission of information to acknowledge practices and politics. Conceptions range from more static, layer-cake depictions to more dynamic models. For example, Scarbrough et al. (2004) propose a nested conception of bounded project teams within organizations, showing how learning levels are produced through new divisions in practice created through project learning. More broadly, research focuses on what happens at different levels, how different levels affect one another, how to link the levels in practice and how/when to balance the 'exploratory' (knowledge creating) with the 'exploitive' (knowledge diffusion) dynamics. An example is Lehesvirta (2004) analyzing interactions among three learning levels (individual, group, organization) and four processes (intuiting, interpreting, integrating and institutionalizing). Brady and Davies (2004) suggest different

learning phases (innovation, sharing, routinizing) for different project phases and levels (individual–project, project–project, project–organization). Grabher (2004) proposes a broader conception of levels, examining the ‘constitutive layers of project ecologies’ (project team, firm, epistemic community, personal networks) to understand what happens when opposing learning logics collide as project teams rooted in different ecologies work together. The link between levels is sometimes conceptualized rather mechanistically as cross-fertilization, diffusion, pipeline sharing and motoring – where the individual is a ‘teleological’ motor to the organization’s ‘dialectic’ motor (Cule and Robey, 2002). Factors affecting the linkage of different learning ‘levels’ are reported to include: tensions, caution and blame created between levels of micro-politics; rules; protection mechanisms at each level; and individual career aspirations. Two articles applied a critical conflict perspective to analyze a conception of learning levels dividing individual workers, management and organizational structures such as divisions of labor. Both articles argued that collective structures (labor-exchange process and human capital ideology of workplace) repressed workers’ learning (conceived as worker empowerment and autonomy).

5. Individual Human Development

Appearing in 27 articles or about 13 percent of the data set, the perspective of individual human development is a humanist philosophy of continuous growth centered in the autonomous person. With respect to individual–collective relations, the assumption is that the individual learns and then affects the group, but the purpose is more about developing individuals than producing skills and innovation for the organization (Jacobs and Washington, 2003). The general base is constructivist learning, for example, through reflection, and respect for individual’s history, with the focus on individual’s meaning-making and helping individuals to continually learn. Research preoccupations include how to promote individuals’ self-directed learning capability, and understanding the relationship of work to individual developmental processes (Clardy, 2000; Straka, 2000). The role of the collective is described in terms primarily that foster the individual’s learning ability.

6. Individuals in Community

Another perspective viewing the individual person as autonomous and boundaried from the community focuses on how individuals learn and acquire knowledge and skills through their action within community. This theme appeared in 41 articles or 19 percent of the data set. Learning is portrayed in terms of the effects of social, cultural cognitive contexts and the involvement of relational dynamics such as identity and trust, but the fundamental focus remains the learning *individual*. Environment is only a *mediating* factor on individual learning and cognition, separate from the individual, not entwined with it. The individual affects the community knowledge by injecting new ideas, and the community affects the individual’s behavior through teaching. Research focuses on what kinds of environments/communities positively affect individuals’ learning and how to generate these conditions; and how individual learning can help improve the community.

Findings reported in the data set stress differences among individuals in expectations, preferences and ways of participating (Filstad, 2004), including women and younger workers. General characteristics of individuals interact with characteristics of the collective, such as support and goal orientation, to produce learning outcomes. Individual differences are affected by the collective's structures and opportunities/barriers to learning. Those with a greater sense of control over their work are more likely to engage in learning (Livingstone, 2001), such as in more democratic work structures or professionals developing individual expertise. The impact of the collective on individual learning is greatest in socialization (task mastery, role clarification and social integration) and in defining or demanding particular competencies, and in the reward system and values placed on learning (Driver, 2002). However, even embedded in social structures, the individual retains a 'durable disposition' to act (Mutch, 2003), and workers organize their own learning regardless of management boundaries and innovation expectations (Poell and van der Krogt, 2003).

7. Communities-of-Practice

This theme appeared in 24 articles or about 11 percent of the data set. Here learning is viewed as participation, embodied in the joint action evident in a community-of-practice (CoP). The view is cultural, as Yanow (2000) points out, and its advantage is moving away from treating organizational learning as generated by individuals. However, the individual does not receive particular attention as separate from the community: the relationship of individual learning processes to collective processes is rarely actually theorized, so individual difference in perspective, disposition, position, social/cultural capital and forms of participation is often unaccounted for. Research seeks to explain the adaptation and reconfiguration of practices to meet changing pressures, and identify ways to facilitate these dynamics. Community learning is affected by both relational stability (trust), variety (new ideas, risk) and group structure (networks, competence) (Bogenrieder and Nooteboom, 2004). Learning is constrained by time pressure, deferral and centralization within and across projects (Keegan and Turner, 2001). Wenger (2000) suggests different modes of belonging that determine people's participation in CoPs, which in turn shape their identities. Five articles in the data set presented critiques of the CoP notion. Its theoretical problems include the insufficient analysis of macro-politics and solidarities within the community expertise; the lack of account for specialized knowledge and how it develops in a CoP during times of rapid change; the lack of attention to elements of individual habitus and agency/structure dynamics in the CoP; and the weak analysis of innovation offered by CoP conceptions (Reedy, 2003; Swan et al., 2002).

8. Co-participation or Co-emergence

Thirty-five articles or 17 percent of the data set were assigned to this category. The category was one of the most difficult to delineate, embracing varied perspectives: yet all appeared fundamentally to share an emphasis on emergence, co-participation and mutual constitution. In this orientation, individual and

social processes are each unique but enmeshed, and deserve examination at micro- and macro-levels of analysis. Learning is knowledge creation through social participation in everyday work. The conception is of mutual interaction and modification between individual actors, their histories, motivations and perspectives, and the collective (including social structures, cultural norms and histories, other actors).

Some theorists retain clear distinctions between the autonomous individual and others in the community. Billett (2004), for example, examines interaction between affordances/constraints of environments and agency/biography of individuals, developing a theory of 'relational interdependency' between individuals' intentional action and workplace practices. Elkjaer (2003), from a pragmatic perspective drawing from Deweyan concepts of experiential learning through inquiry, delineates the collective from individuals and individual processes of thinking 'to acquire' and reflection to pose and solve problems, but views individuals and organizations as 'inseparable' for both are 'products and producers of human beings and knowledge' (p. 491). Tempest and Starkey (2004) focus on how knowledge develops, for individuals and organizations, in 'liminal' regions created by project teams cutting across organizational boundaries. In terms of research or evidence dissemination, Wood and Ferlie (2003) present a direct critique of information transfer models, arguing for a non-linear, 'rhizomatic' understanding of knowledge circulation within activity. Salling-Olesen (2001) shows ongoing mutual influences among the social division of labor, social practices of the everyday, and subjective experiences of work and identity. Other more radical versions expand the 'collective' to include environmental architecture, discourses and objects, as in actor-network theory (in three articles) where knowledge circulates and is 'translated' in each interaction of one agent mobilizing another (Gherardi and Nicolini, 2000). These studies treat objects as active repositories of knowledge and examine the knowledge produced through micro-interactions among people and objects in their everyday work activities. Cultural-historical activity theory (in seven articles) views individual and organization in a dialectical relationship, where learning is occasioned by questioning practices or contradictions of the system, and is distributed among system elements: perspectives, activities, artifacts, affected by all contributors and clients (Engeström, 2004). Complexity theory, featured in seven articles, treats learning as inventive/adaptive activity produced continuously through action and relations of complex systems, occasioned in particular through disturbance.

Most agree that learning is prompted by particular individuals, events, leaders or conditions. Individuals act as guides or mentors to prompt learning, events prompt learning through disruption, leaders by encouraging inquiry and supporting improvisation and conditions by directing movement in particular ways, such as through job design or physical arrangements. Issues raised include accreditation and assessment of learning when it is buried in co-participation, distinguishing desirable from undesirable knowledge development, accounting for changing notions of what is useful knowledge and differentiating influences of particular groups in the co-participational flux (positional, generational, gendered, etc.).

Discussion

These eight categories present very different conceptions of the relationships between individuals and the collective in workplace learning processes. Certain themes were more prominent in particular journals and scholarly fields (e.g. individual human development and individual in community themes dominated human resource development studies, whereas levels of learning and network utility themes were more prominent in organization studies). One might speculate that the primary unit of analysis and overarching purpose in particular disciplines frames the perceptive field in particular ways. However, for reasons of data limitation explained earlier, this discussion does not attempt to analyze such trends within respective fields.

Context appears to receive increasing attention in individual–collective learning studies, for context delineates the relation, background and composition of individual and collective. Just *how* context is understood ranges considerably. But in considering range, caution is necessary to avoid reducing all views to one analytical dimension. The views do not, for example, represent different scalar levels of the same phenomenon. At the risk of creating a misleading binary, two contrasting overarching perspectives of context appear in these studies. In the first, context is viewed as a decentered *web of relations* in studies reflecting the community-of-practice or co-participation/co-emergence themes. Within this relational mesh, there is no discernible individual separable from particular actions, cultural norms and practices. In the second, context is portrayed more like a *container* in which the individual moves. This view appeared in the majority of articles, particularly in views of individual acquisition, individual development and individual in community.

In the ‘context as container’ view, this container tended to include both social and material environments surrounding the learner, including other people, objects and technologies. Some also acknowledged the larger cultural discourses and practices circulating in this container, to break free from a purely material view of a spatial container. Within this conception, the role of the *collective* in learning processes was viewed differently on a range of degree and direction of causality. One view presented the collective as a realist *set of conditions*, disciplines, practices and objects within which the learning agent interacted. The degree to which this set of conditions was interdependent with or entirely separate from the learning agent varied, but it was not ascribed causality. Few outside the co-participation/co-emergent themes even theorized how this set of conditions came into existence, or how these conditions actually changed through the learning agent’s interactions with them. A second view ascribed more active pedagogic intervention to the collective, presenting the collective as a *teacher* whether materialized as a specific coach, as directions or as more diffuse but still active affordances and inhibitors of learning embedded within the collective. A third view moved further, presenting the collective in a learning transaction as a *causal entity* outside the learner, acting upon the learner through determining ideologies, intentional programs or organizational structures. A fourth view, most evident in the sense-making theme, reversed the direction of causality, conceiving

the collective almost as the *outcome of learning*, constructed through individuals' meanings or actions.

These four views of the role and function of the collective in individual–collective workplace learning relations ultimately present fundamentally different ontological orientations. Those with a *realist* view assume that the real existence of objects, activities, people and associated occurrences of learning should not be confused with human perceptions of these things. The realist view appears evident, albeit to different degrees of reflexivity, in the themes of individual acquisition, levels of learning, network utility and co-participation/co-emergent. Those indicating a *constructivist* view assume that individuals' meaning-making in work is the most important focus in questions of learning; objects and activities are separate from but not theorized as part of these constructed meanings. The constructivist view arguably might include the themes of individual in community and individual development. And those revealing a *social constructionist* view, evident in certain writings grouped here as themes of communities-of-practice and sense-making, assume that all things in work are constructed through shared meaning-making. This includes objects, ideas, subjectivities, practices and the learning processes through which they come into being and become adapted and transformed. These are all considered to be social constructions, and no 'real' materiality exists beyond these constructions.

What is missing in many 'container' accounts of context and the collective is a theorization of the precise relations that unfold at the interface of the individual with the many surfaces of the collective. Questions inviting more fine-grained analyses are about how and why individuals use different objects in their work contexts in particular ways, and what learning is actually produced in these uses. Issues of agency in the individual–collective relationship perhaps deserve more particular exploration, as Suchman (2007) shows in her examinations of work activity: How and where is agency produced?, she asks. Where is alienation located in everyday interconnected assemblages of objects, hands, eyes and intentions? How are new realities constructed from sociomaterial intra-actions?

Other analysts have focused on sociality and subjectivity, asking what actually happens in terms of learning when individuals interact with others in the collective: in activities of compliance, conflict, subversion, transformation, avoidance and so forth (Mulcahy, 2005). What different community norms and dynamics of desire and difference are at work in these interactions? Helpful analytic tools to examine learning and social relations are being developed in scholarly regions such as actor–network theory, critical discourse analysis and feminist post-structuralism, although these appeared only rarely in this particular data set of workplace learning research.

Given the importance of power in relations of individual–collective learning, the low attention paid to power in these articles is significant. Only around 15 percent touched upon power relations in any way, including politics of micro-social relations, knowledge and identity, organizational hierarchies and recognitions. Gender issues were addressed in less than 10 percent of the material and race or class issues in less than 5 percent. Those articles that discuss power in any depth are almost exclusively theoretical in nature (Huzzard, 2004). In empirical studies where power is mentioned the reference is often kept general

or focused on the micro-politics of the organization rather than systemic analyses of how power functions to position people and practices, promote interests, recognize some knowledge and ignore others. A notable exception is Vince and Saleem's (2004) exploration of 'caution and blame', in which the analysis traces links between organizational politics and attempts to organize learning, showing how power relations are generated by and exercised through emotional dynamics underpinning learning and practice. More theory-building studies that substantively engage power issues in workplace learning processes would be helpful.

A final point about these articles overall is a tendency not to define 'learning' even when learning was the clear focus of investigation in reference to individual–collective relations. 'Learning' as a term in the workplace literature has been used to refer to process as well as to outcome, and to a wide range of phenomena that are fundamentally different: cultural transformation, individual personal development, everyday participation in practice, information acquisition, re-skilling, political conscientization, innovation and so on. Thus the tendency not to define which particular phenomenon has been chosen as the focus for a study can lead to some ambiguity in endeavors to compare study findings.

Conclusion and Implications

Based on this literature review of articles examining workplace learning published in nine journals between 1999 and 2004, eight distinct views of individual–collective relations in the learning process were identified: individual knowledge acquisition, sense-making/reflective dialogue, levels of learning, network utility, individual human development, individuals in community, communities-of-practice and a co-participation or co-emergence theme. These embed two contrasting views of the workplace learning context: as a web of relations or as a container. The container views portrayed the collective in individual–collective relations as a set of conditions, a teacher, a causal entity, or as an outcome of learning. Contrasting and perhaps irreconcilable ontological orientations appear to underpin the arguments.

The analysis suggests certain conclusions and implications for research. As expected, it was found that each field (human resource development, adult education and organization/management studies) tends to be self-referential. However, publications in all fields examine similar problems: how to understand individual–collective learning processes, knowledge generation, knowledge sharing, inhibitors and facilitation of these processes. Each field also raises critical questions about its own traditions of theory and research, and sometimes calls for research in areas that are well-undertaken in other disciplines. Empirical studies are contributing important details, although aside from a few authors who publish across disciplinary journals, there does not yet appear to be much information-sharing across fields.

Analytic tools are working towards more comprehensive theorization of relations among various system elements in individual–collective learning processes (project teams, organizational culture, boundaries, information flows, practices,

human actions). There may now be need for more fine-grained work in examining micro-relations among and between these elements, exploring how knowledge actually emerges and how practices are reconfigured at their interfaces. Issues of human agency, subjectivity, sociality, sociomaterial assemblages, time and space in learning being studied in other facets of social life, and even other areas of organization and work research, are yielding analytic tools that may be very helpful for workplace learning research. One of the more promising areas for future conceptual development may be within the co-participation/co-emergent theme.

Increasingly, researchers appear to be theorizing subtle dynamics of learning processes, and drawing upon wide-ranging theoretical bases to do so. To seek commensurability among these diverse perspectives might elide important distinctions and prevent clear discernment of the possibilities that open at their meeting points. However, there may be rich opportunity for more theoretical comparison and debate in approaching similar questions about the relations of individual to collective in learning. For example, given the calls for greater focus on power and politics in organization studies as a critical dynamic affecting organizational practice and learning (Easterby-Smith et al., 2000; Hager, 2004; Huzzard, 2004), it is notable that little empirical analysis of power is reported in studies of individual–collective workplace learning processes. This under-reportage may be worth further investigation to identify any theoretical, practical or political constraints in researching power relations in workplace learning.

Cross-disciplinary dialogue might be enhanced if researchers clarified their particular disciplinary meanings and assumptions about learning a little more explicitly in terms recognizable to those in other fields. Purposes for studying learning also might be stated explicitly, for these vary considerably in ways that shape and are shaped by the researcher's philosophical orientation: whether to increase organizational productivity and employee performance, to assist individual career and knowledge development, to improve workers' conditions and equity, to foster corporate social responsibility, to engender economic democracy in workplaces and so on. Such clarifications might aid in building language bridges between fields, tracing distinctions, finding spaces of convergences and opening sites for dialogue that could help refine and enrich approaches to understanding individual–collective relations and workplace learning more broadly.

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Notes

1. *Workplace* learning is a rather problematic term, given its implications of a bounded identifiable place, whereas work and related learning activities tend to be spatially and temporally fluid. However, this broad signifier appears to be widely used to designate formal and informal learning related to paid work.

2. International Conference in Researching Work and Learning, University of Leeds, UK, September 1999. Subsequent RWL conferences were held in Calgary, Canada (2001), Tampere, Finland (2003) and Sydney, Australia (2005).

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