Knowledge Transmission in Light of Recent Transformations in the Workplace
La transmission des savoirs à la lumière de transformations récentes des milieux de travail
La transmisión de saberes a la luz de las transformaciones recientes de los medios laborales

Esther Cloutier, Élise Ledoux et Pierre-Sébastien Fournier

Résumé de l'article
Dans un contexte de mutations démographiques et de transformations du monde du travail, les préoccupations pour la gestion des âges se sont progressivement transformées en préoccupations pour la gestion des savoirs. En effet, les nombreux savoirs développés avec l'expérience par le personnel pour faire face aux multiples situations rencontrées dans l'exercice de leur travail et se protéger des risques à leur santé et à leur sécurité constituent une part du capital immatériel essentiel pour la pérennité de l'expertise, voire la survie de l'entreprise.

Les pratiques de gestion occupent une place importante pour assurer la sauvegarde des savoirs dans les entreprises de même que le contexte organisationnel. Or les transformations du monde du travail des dernières années en réponse à un univers économique instable ont poussé les entreprises à introduire de nombreux changements dans les milieux de travail.

Trois études de cas menées au Québec, portant sur un métier donné (technicien de cinéma, aide en alimentation, infirmière en soins à domicile), et s'appuyant sur des entrevues des observations sur le terrain, seront présentées pour tenter de décrire l'influence de certains de ces changements, telles que la précarité d'emploi, la flexibilité et l'intensification du travail sur la transmission des savoirs en situation réelle de travail.

Les résultats suggèrent que ces changements, en fragilisant les collectifs de travail et en augmentant la charge de travail des expérimentés vont agir comme un frein à la transmission des savoirs. En effet, dans un tel contexte, les équipes sont en continuelle recomposition, ce qui peut démobiliser les expérimentés qui doivent constamment initier de nouvelles recrues alors qu'ils sont déjà surchargés. Des pistes de recherche sont proposées afin de pouvoir composer avec ces changements de façon à mieux soutenir la dynamique de transmission et de partage des savoirs d'expérience essentielle à la performance organisationnelle et à la préservation de la santé des personnes.
Knowledge Transmission in Light of Recent Transformations in the Workplace

Esther Cloutier, Élise Ledoux and Pierre-Sébastien Fournier

In a context of changing demographics and workplace transformations, a number of authors are concerned about the issues related to knowledge transmission in organizations. The vast experiential knowledge and diverse skills developed by workers to cope with the numerous situations encountered in the course of their work constitute part of the intangible assets vital to the sustainability of expertise, if not to the survival of the organization itself. Based on three case studies, this article describes the impact of precarious employment, flexible management practices and work intensification on knowledge transmission in real work situations. Possible avenues for research are proposed with a view to ensuring better support for the transmission of experiential knowledge in organizations.

KEYWORDS: knowledge management, organizational context, flexibility, precarious employment, work intensification

Introduction

In a context of changing demographics (Giannakouris, 2008; OCDE, 2008), transformations in the world of work (Mercure, 2001; De Conink and Gollac, 2006), and a knowledge-based economy, concerns about age management are gradually turning into concerns about knowledge management (Riffaud, Bernier and Caron, 2007; Millanvoye and Colombel, 1996; Pueyo, 1998; Gaudart and Weill-Fassina, 1999), posing major challenges for the sustainability of expertise, and ultimately, for the survival of organizations themselves (DeLong, 2004). In view of this fact, a number of authors are focusing their attention on the issues involved in knowledge transmission, both from an organizational performance perspective (Viola, 2005) and from the point of view of retaining experienced workers by offering them opportunities to play new roles in organizations (Guérin and Saba, 2003). Lastly, other authors are exploring the occupational health and safety issues involved in the transmission of experiential knowledge in the workplace (Cloutier et al., 2002).

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This article describes the impact of recent workplace transformations such as precarious employment, the use of flexible management practices, and work intensification, on the transmission of experiential knowledge in real work situations. It investigates how and at what daily cost (e.g. stress, workload) experienced workers of all ages participate in knowledge transmission while simultaneously carrying out their main work activity, in the context of such transformations.

We begin by reporting briefly on the background to the issue of knowledge transmission in the workplace. This is followed by a presentation of some of the results of research projects we have conducted over more than five years in various workplaces on the transmission of experiential knowledge in real work situations. Lastly, we discuss the main findings of our research work and offer a critical review of the different viewpoints documented in the literature in order to then identify avenues for future research.

Knowledge Transmission in the Workplace

An abundance of scientific literature exists on the topic of knowledge transmission. In this section, we look first at the importance placed on experiential knowledge and skills within organizations and the issues surrounding their retention. This is followed by a brief description of some of the managerial practices proposed in the literature as a means of ensuring knowledge transmission. The section concludes with a discussion of a handful of studies that explore the impact of organizational contexts on knowledge transmission, particularly contexts resulting from recent transformations in the workplace, such as the use of flexible management practices, precarious employment, and work intensification.

Experiential Knowledge and Skills in the Workplace

Learning an occupation or trade is a complex process that lasts a person’s entire working lifetime. Even when occupational training is provided in the workplace and when a formal orientation and integration process is in place for new workers, such measures do not suffice (Chassaing, 2006; Gaudart, Delgoulet and Chassaing, 2008; Lave, 1996; Ouellet and Vézina, 2009). Experiential knowledge and skills are primarily developed by having to deal with concrete work situations, a process that varies in length depending on the occupation, and continues until all facets of the work have been mastered. At this point, experienced workers can then play a key role in organizations because of the experiential knowledge and skills they have acquired, i.e. the “tricks of the trade” or “basic rules they have assimilated” (Delay and Huez-Levrat, 2006), which take the work context into account (health and social services: Cloutier et al., 2005; Gonon, 2003; iron and steel industry: Pueyo, 1998; aviation: Millanvoye and Colombel,
1996; automobile industry: Gaudart and Weill-Fassina, 1999; truck driving sector: Fournier, 2003). This experiential knowledge is often invisible, highly diversified, and the result of informal on-the-job learning (Chatigny, 2001). Both Delay and Huyez-Levrat (2006) and Johansson (2003) note that the younger generations recognize older workers as having expertise in the form of both organizational knowledge of the enterprise’s informal operations and technical mastery during critical situations, such as machine breakdowns or changes in products. Not only is it the operational procedures involved in the production process (work techniques, tools, machines, work organization, etc.) and knowledge of human and strategic relations (regulation of work teams, work-safety attitudes and behaviours, power relationships and informal rules, values and social representations, etc.), but also the organizational culture and occupational values may be passed on from experienced workers to new workers in the workplace (Ledoux, Cloutier and Lefebvre, 2007; Lefebvre, Charland and Lecompte, 2000; Ouellet and Vézina, 2009; Raoult, Delay and Marchand, 2006). The transmission of experiential knowledge and skills is part of a dynamic process of knowledge transformation (Nonaka and Takeuchi, 1995). Workers assimilate and transform knowledge by building what Clot calls their own “style” (Clot, 2008). This knowledge becomes experiential knowledge and skills that are in turn debated among workers within the work team.

Yet recognition of this experiential knowledge is not a given in organizations (Lamari, 2010; Cloutier et al., 2005). Researchers also note that workers have great difficulty verbalizing this knowledge because they are so closely tied to the work activities and context, and have been so completely integrated into them for a long time (Klack and Marquette, 2008; Ouellet and Vézina, 2009; Vézina et al., 1999; Tremblay, 2007). In this context, the transmission of experiential knowledge becomes a strategic issue for organizations.

Preserving Experiential Knowledge and Skills in Organizations

According to DeLong (2004), management practices play a key role in preserving knowledge in organizations. These practices concern human resource management, measures for retaining aging workers, knowledge and skill transmission practices, and the use of information and communication technologies to conserve and share this knowledge.

Knowledge transmission corresponds to the processes implemented to preserve, make good use of, and ensure the sharing of the experience and knowledge acquired individually and collectively within an organization. Two managerial approaches stand out in the voluminous literature on this topic.

The first consists of implementing structured activities that have been strategically developed in organizations by human resource departments. This approach,
which could be described as “top-down,” is depicted in numerous models in the literature (Applehans, Globe and Laugero, 1999; Awad and Ghaziri, 2004), most of which attempt to document, store, enhance, and modify the knowledge and skills used by the workers involved in order to then redistribute and eventually control them. Such an approach is based on the idea that if nothing is done to retain this knowledge, the organization will lose expertise and functional capacity (DeLong, 2004). Using a variety of strategic means, organizations seek to appropriate this knowledge in order to centralize and exert control over it, ultimately for the purpose of preserving it.

The second approach is more “bottom-up” in nature. It focuses on the transmission of experiential knowledge as it is actually practiced by knowledge holders through concrete work activities on a daily basis (Cloutier et al., 2002; Gaudard et al., in press). Given the difficulty of expressing experience in words (Argyris and Schön, 1974; Bourassa, Serre and Ross, 1999), this approach does not seek to document all this knowledge, but rather to understand the work dynamics that allow it to be transmitted. In this approach, it is deemed that the workers are the ones with the experience, and that under proper conditions, they will be able to pass this experience on through the actions and interactions that take place in the performance of their work (Raoult, Delay and Marchand, 2006; Hutchins, 1994; Lave, 1996; Lave and Wenger, 1991). This approach involves adopting a learning support perspective. Learning support consists of proposing coherent and diversified means to help the workers understand the situation and decide what actions should be taken daily (Haradji, 1993; Theureau and Jeffroy, 1994). Organizations thus need to recognize this experiential knowledge and provide conditions conducive to its transfer, rather than appropriating it themselves and controlling the knowledge-sharing process.

Organizational Contexts Influencing the Transmission of Experiential Knowledge

In addition to identifying the characteristics of the transmitters and receivers of the experiential knowledge to be passed on, the literature identifies the organizational context as an important factor in the transmission process (Landry, Amara and Jbilou, 2007; Prévot, 2007). Depending on the research perspective, the concept of organizational context refers to different realities. In the field of occupational psychology, it refers primarily to the corporate culture and reputation (Argote and Ingram, 2000; Szulanski, 2000). It also concerns individual motivation and the organizational atmosphere because these two factors promote interactions among workers, which, in turn, are vital to knowledge transmission. In management, Lamari (2010: 50) describes the characteristics of organizations that are “capable of promoting the heritage of tacit knowledge
and of putting it to use in their performance” (our translation), such as organizations that encourage team work, recognition of knowledge holders, flow of knowledge, ease of interactions, networking, and organizational motivations. In the fields of ergonomics and sociology, the concept of organizational context is approached in terms of factors such as time constraints, workload, and work team stability, all of which are seen as playing a determining role in the implementation of conditions that are more or less conducive to the transmission of experiential knowledge (Cloutier et al., 2002; David et al., 2007; Lesemann, 2007; Le Roux, 2006; Raoult, Delay and Marchand, 2006).

Moreover, the transformations that have taken place in the world of work in the past few years in response to an unstable economic climate have driven organizations to introduce numerous changes in the workplace (De Coninck and Gollac, 2006). These changes, particularly in work organization, can take a variety of forms: the introduction of quality standards, job rotation, reassignment, and independent multi-tasking that makes use of all the capacities and real-time availability of employees (Askenazy, 2004; Cadin, Guérin and Pigeyre, 2002; St-Onge et al., 2004). In this article, we have opted to focus specifically on the impact of flexible management practices, precarious employment, and work intensification, since in our opinion, these factors can have significant impact on the dynamics of work teams and worker interactions, without which no knowledge transmission can occur (Argote and Ingram, 2000; Szulansky, 2000, Pelchat et al., 2005; Cloutier et al., 2002).

These changes include the use of more flexible management practices by organizations in order to adapt quickly to changes in demand and in the economic environment (Mercure, 2001). The flexible management practices can take several forms: varying work schedules, wages and salaries, numbers of workers, levels of job status, and functions. Essentially, organizations are seeking either functional flexibility, which consists of using workers to perform variable functions in light of needs, or numerical flexibility, which means adapting the size of the workforce to fluctuations in demand by using workers with precarious employment status (Atkinson, 1984; Mercure, 2001). Yet the increased use of a precarious workforce would appear to create conditions that undermine the establishment of a constructive relationship between new and experienced workers (David et al., 2007; Le Roux, 2006).

Work intensification often appears to be a consequence of these changes (De Coninck and Gollac, 2006). With regard to knowledge transmission, work intensification appears to add time pressure, leading to a circumstantial assignment of new and experienced workers to immediate tasks that require a rapid response and do little to foster interactions (David et al., 2007; Leseman, 2007; Raoult, Delay and Marchand, 2006). Not only does work intensification
isolate people, but it also appears to gradually reduce practices such as training and mentoring.

These findings led us to pursue our investigation by looking specifically at the following issues: how the precarious employment phenomenon observed in several industries might affect knowledge transmission; whether the use of functional flexibility might influence knowledge transmission; and lastly, how knowledge transmission can be carried out in a context of work intensification and increased workload (De Coninck and Gollac, 2006). Examples taken from the different case studies we conducted over the past few years are cited in the following sections in an effort to shed light on these issues.

**Understanding Knowledge Transmission in Real Work Situations: Case Studies**

The transmission of experiential knowledge and skills in real work situations is a complex issue to study, since it takes place during all the interactive situations occurring on the work premises and implies a network of workers, each having a variety of knowledge and skills related to their own experience (Cloutier et al., 2002; Gaudard et al., in press). To study the issue in a wide range of industries (aviation, health, food manufacturing and distribution, film) over the past few years, we opted for a case study approach (Yin, 2009) focused on the study of a given occupation or trade and based on interviews of key informants and observations made in the field. We will use the results of three particular case studies in Quebec concerning film technicians, food service helpers, and homecare nurses (Table 1) for the purposes of this article.

Semi-structured interviews ranging from one to two hours in length were conducted with managers and union representatives in each case study. The interviews were concerned with matters such as the characteristics of the

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<td>Data Collection Methods used in the Case Studies</td>
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<td>Formal or informal one-on-one interviews (experienced workers, new workers)</td>
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Group discussions |
workforce and the work, departmental operations, production and organizational
constraints, changes under way within the organization, the interlocutors’
perceptions of the complexity of the learning related to the occupation under
study, and the management practices aimed at knowledge transmission.

The work activity was also observed, allowing us to itemize the tasks
performed in terms of time per work shift, location, material and/or equipment
used, problems encountered, and moments when dialogue took place between
one or more experienced workers. During these observations, we also conversed
with the employees as they performed their tasks for the purpose of obtaining
greater detail on various aspects of the work that had attracted the observer’s
attention.

To allow for more refined analysis of the transmission activity, the con-
versations between experienced and new workers during task performance
were recorded. These recordings were then analyzed in conjunction with the
observation data collected simultaneously in the field. Lastly, group interviews
yielded information on the issues involved in knowledge transmission and the
occupational integration process.

An analysis of these case studies\textsuperscript{1} will be presented in an effort to describe the
impact of precarious employment, functional flexibility, and work intensification
on knowledge transmission in real work situations. The film sector case study will
be used to illustrate the impact of precarious employment, while the case study
on food service helpers will shed light on functional flexibility. Lastly, the case
study involving homecare nurses will reveal the impact of work intensification on
knowledge transmission.

**Precarious Employment and the Transmission of Experiential
Knowledge and Skills**

The film industry is characterized by the fact that the majority of the individuals
who work in it are self-employed. They are often hired by a production company
or an independent producer for a single project that may span anywhere from a
few days to several weeks. Often, independent production companies exist only
for the duration of the project. Technicians then go looking for a contract with
other producers. Precarious employment is thus pervasive throughout the film
industry at both the company and worker level.

Our case study of film technicians revealed that this precarity affects
knowledge transmission in various ways. While most of the knowledge and
skills acquired by film technicians are learned on the job, the requirements
of the industry with respect to new workers run counter to this reality. The
experienced workers we met agreed that professional development in this
industry is a long process which involves a number of stages. In other words,
the necessary experiential knowledge and skills are acquired by having to deal with different situations and through repetition, all aspects that require time. However, the manner in which the film industry is organized, with precarious employment and competition inherent in the exercise of many occupations, forces newcomers to “show their worth” very quickly. Their performance is often evaluated on the basis of a single day’s work, or sometimes of a few hours’ work, as shown by our analysis of the integration of two new workers. In fact, while the newcomers’ own educational, social, and occupational trajectories play a role in their integration, it is their adherence to the occupational culture that constitutes the key factor. This culture hinges on respect for the hierarchy and occupational rules, such as helping one another and adapting to the modes of communication. The more readily the newcomers adopt behaviours in keeping with the occupational culture, the faster they are integrated into the work team, and it is the access to this work team that then opens the doorway to learning opportunities through knowledge transmission.

Our study also shows that precarious employment constitutes a major obstacle to knowledge transmission at other levels. This precarity in fact hinders the sharing of experiential knowledge among the different workers involved, because they may be placed in competitive situations against one another when looking for work on other film sets. It also hinders the formation of stable work teams. Furthermore, by hiring a fluctuating workforce simply to meet their immediate needs, companies do not invest in training. To remedy this gap, a union association in this industry, the Association québécoise des techniciens de l’image et du son (AQTIS), takes charge of the ongoing training of technicians.

In the film industry, therefore, precarious employment creates conditions that pose obstacles to experiential knowledge transmission and results in a shifting of this organizational responsibility onto the shoulders of the workers, both new and experienced.

**Functional Flexibility and the Knowledge Transmission Process**

The case study we conducted of food service helpers in the food services department of a health and social services centre (Centre de santé et de services sociaux, or CSSS) is used here to describe the impact of functional flexibility on knowledge transmission.

The CSSS that participated in this study encompassed five different establishments that had been merged over the past few years. Nearly all the food service helpers hold atypical jobs (part-time, casual) and therefore do not have a full-time workload in the food services department. In addition, the *food service helper* job title has been merged with other job titles, to the effect that
these workers also carry out jobs as maintenance workers, orderlies, laundry workers and sterilization assistants. The food service helpers, with the exception of a few senior workers assigned to full-time positions, are therefore required to carry out a large number of jobs. The teams are continually being broken up and new ones formed, depending on the arrival or departure of workers moving between establishments and job titles, and on variable work schedules. This flexible staffing management practice has repercussions on workforce stability, with the food services department experiencing a staff turnover rate of approximately 55%.

The food service helpers are responsible for preparing food and assembling food trays, serving meals (cafeteria, dining room, meal distribution to rooms), managing food product inventories and meals, cleaning trays and washing dishes, as well as maintaining the premises and food service work spaces. This occupation is essentially learned on the job.

The results reveal that in the work teams in this context, it is primarily the most senior workers (who are about to retire) who participate in the knowledge transmission process. For example, during orientation, they coordinate their efforts to ensure that the new workers always have tasks to perform, that the knowledge the latter acquire in their tasks is as beneficial as possible for their learning process, and that the progression in task complexity takes into account the newcomers’ capacity to absorb the new knowledge. Yet, the fact that the new workers are required to be very mobile and the staff turnover rate is high means that the knowledge transmission activity, which is essential to the attainment of production and quality objectives in an on-the-job learning context, compounds the workload borne by the more senior workers and constantly has to be repeated.

Our observations revealed that the less senior workers do not completely master all aspects of their work, even after a few years on the job, and this leads them to be less involved in learning transmission because they fear work overload and losing control of the situation. Their lack of availability has several consequences, including that of increasing the workload of the most senior workers, particularly after massive recruitment of new workers (for example, during the summer season).

This case study shows that knowledge transmission from the experienced to the new workers is the only means whereby the occupation is learned. It also shows that given the functional flexibility required, the last senior workers to hold full-time positions are the only individuals with an in-depth knowledge of the occupation. Their upcoming retirement and its impact on the new workers’ learning and the retention of this expertise is a matter of great concern to all the workers.
Work Intensification and the Knowledge Transmission Process

Recent studies of homecare nurses have revealed that their work is radically changing and intensifying (Bourbonnais, 1998; Bourbonnais et al., 2000; Corey-Lisle et al., 1999). One sign of this intensification is the increase in workload. In fact, the current transformation in the profession of homecare nurses involves the addition of new tasks, but no elimination of any of their traditional tasks. They are now “nurse navigators” responsible for doing follow-up of both their own patients and those seen by nurses with precarious employment status, of whom there are many. In addition, new systematic client tracking tools are increasingly being used in order to streamline the types of care to be administered according to the pathology involved, as well as the time to be spent on these clients. The nurses must therefore assume new administrative responsibilities, which also demand time.

Yet, with the way in which their work is currently organized, these tasks are “invisible” since they do not equate to direct care for system users. Moreover, they require the nurses to organize work teams (Cloutier et al., 2005). In fact, very often this coordination task carried out by the nurse navigator requires holding professional and interprofessional meetings, as well as case-related discussions, activities which often receive less recognition in the organization because they are not deemed directly productive by managers on the grounds that they cannot be equated to direct care.

What emerges from the analysis is that this transformation in the profession of homecare nurses is taking place at the expense of the affective user-support relationship, because we observe that the actual care time during which there is direct interaction with the patient represents less than half the overall work time. Yet, the observations and interview analysis indicate that this is the very part of the work which constitutes, according to the nurses themselves, the crux of a nurse’s job. The fact of no longer having the time to interact directly with patients also has a cost in terms of psychological health.

This work intensification process and increased workload, which go hand-in-hand, also have an impact on the transmission of experiential knowledge and skills. In fact, the relational and affective dimension of care can no longer be passed on because it is difficult to establish under the current time and workload constraints. This in turn impoverishes the new workers’ experiential knowledge and skills. Moreover, the reduction in time available for dialogue with colleagues at meetings and in case-related discussions further hinders the knowledge transmission process. Lastly, this work intensification reality undermines another important, though totally invisible, task that became apparent through our observations. This is the task of advising and supporting; it is a role played by the most experienced nurses, who become resource persons in their workplaces. Our
observations show that these nurses are the ones most frequently interrupted by their less experienced co-workers, particularly beginners. In a context of work intensification, such interruptions lead to a further increase in mental workload because they occur mainly during record-keeping, a task demanding close concentration to prevent oversights. The increase in the nurses’ workload not only affects the content of the knowledge transmitted, but also eliminates knowledge-sharing opportunities.

**Discussion**

Recent studies (Cloutier *et al*., 2005; Delay, 2006; Gaudart, Delgoulet and Chassaing, 2008) have revealed that the presence of a strong work team constitutes a vital prerequisite for knowledge transmission, because through such teams, workers share work strategies and recognize each other’s competencies. In addition, each member of the team has a particular knowledge and skill set that is worth sharing and is the result of his or her occupational trajectory and experience. It is also within the work team that a sense of belonging and occupational identity forms and that the “rules of the craft” are shared, which is both vital to integration within a team, and to integration into the occupation. As some writers have pointed out (Pelchat *et al*., 2005; Delay and Huyez-Levrat, 2006), knowledge transmission within organizations helps build intergenerational solidarity.

However, several conditions can affect the functioning of a work team by reducing the margins of manoeuvre available and the opportunities for knowledge transmission. In this article, we have endeavoured to describe the impact of certain recent transformations in the workplace, such as work intensification and the use of functional flexibility, on knowledge transmission in real work situations. These practices are, in our view, particularly important to look at because they affect the amount of time available to perform work and the formation of the work team, two key factors in knowledge transmission. We have seen that precarious employment and functional flexibility are two factors that have an indirect effect on knowledge transmission, inasmuch as they undermine work team stability and increase the workload of more senior workers. In such a context, the teams are continually being reconfigured, which can demotivate the experienced workers who are constantly faced with having to initiate new recruits when they themselves are already overworked. Furthermore, this in turn discourages the new workers from staying in their jobs, thus undermining workforce retention and setting a vicious circle in motion. Lastly, these work characteristics can also hinder experiential knowledge sharing because the workers may eventually be pitted against one another in competitive situations (Béaud and Pialoux, 1999).

To our knowledge, few studies focusing on precarious employment have directly explored its impact on knowledge transmission in the workplace. However,
the few that do exist have brought to light the lack of formal training and poorer health and safety protection available for workers with precarious employment status (Quinlan, Mayhew and Bohle, 2001; Lippel, 2004), which may suggest that it too has an impact on knowledge transmission.

The scientific literature also shows that the concept of precarious employment conceals a non-homogenous continuum of employment and working conditions, and employment insecurity, as well as a diverse range of consequences for occupational health and safety (Louie et al., 2006; Vosko, Zukewich and Cranford, 2003). For example, the health and safety problems may differ, depending on the level of precarity experienced by the workers. The same may apply when it comes to the transmission of experiential knowledge. In the case studies presented here, the film industry and institutional kitchen workers differ from the homecare nurses on this precarity continuum, with the former experiencing more structural precarity than the latter. In fact, in the health sector, nurses have casual employment status for a while before obtaining permanent status, whereas in institutional kitchens, workers may spend several years performing different jobs in different establishments before being able to obtain permanent jobs. By contrast, this is never the case in the film industry, where precarious employment is present throughout the workers' professional lifetime. Our earlier studies reveal that when precarious employment is more related to ad hoc workforce demands, as in the homecare sector, certain mechanisms promoting experiential knowledge transmission appear to exist (Cloutier et al., 2005). This point warrants further investigation.

The issue of workload in a work intensification context would also appear to be of paramount importance. In fact, the fewer workers there are for the production required or services to be delivered, the heavier the workload (physical, cognitive, and affective) and the less time and mental availability there is for the knowledge transmission activity, which is, we must recall, a new task added to the work activity. Hence, experienced workers who agree to pass on their experiential knowledge and skills directly increase their workload by doing so, since their task is not usually lightened to allow time for this new activity (Gaudart, Delgoulet and Chassaing, 2008; Cloutier et al., 2005). In our case studies, we found that the workload is increasingly heavy due to various factors, including the variability of the work, frequent changes within the organizations, budget constraints, and a shortage of qualified workers. Again, it must be emphasized that knowledge transmission and occupational learning are processes that take time (de Bruycker, 2007; Chassaing, 2006; Lave, 1991): time for more experienced workers and new workers to establish relations; time to explain, discuss, observe, and compare viewpoints; and time for new workers to understand the work environment, have their own experiences, gradually assimilate the experiential knowledge that
has been passed on to them, and, lastly, develop their own ways of doing things (Vézina et al., 2003; Ouellet and Vézina, 2009). Yet, we observed that all the occupations in our case studies were facing a marked intensification of work.

These human resource management practices have a very direct impact on the time spent on the knowledge transmission activity. In our view, this situation has adverse and profound consequences that affect both the wealth and diversity of experiential knowledge and skills, and hence, the definition of the occupation itself in the long term. In fact, they contribute to the impoverishment of these occupations. For example, among homecare nurses, some of the relational and affective knowledge associated with care is no longer always passed on by experienced to new workers. For food service helpers, efforts to streamline the time spent on certain operations have an impact on their ability to carry out activities whilst at the same time preserving the quality of their work and of the product. Thus, experiential knowledge pertaining to quality is no longer transmitted on every occasion.

While these examples illustrate the impact of these changes on the transmission of the experiential knowledge essential to work efficiency and quality, they may also affect the meaning and meaningfulness of the work, and ultimately, occupational values (Dejours, 2000). In fact, in such a context, it is conceivable that experienced workers find themselves in deteriorating work situations and do not wish to transmit certain knowledge that they necessarily have to use in order to cope with production constraints, since the “result” of their work is not “beautiful” in their eyes. This could, in turn, have consequences on several levels, not only for occupational health and safety, but also on the retention of young workers. The latter may then tend to leave the workplace, leading to high turnover rates that further degrade the situation. In summary, occupational impoverishment in terms of knowledge and meaning can have many consequences both at the company level (quality of production) and the personal level (OHS, motivation, retention, etc.).

**Avenues for Research**

What then can be done to cope with these transformations in the workplace in such a way as not to hinder the dynamic of knowledge transmission and on-the-job inter-worker dialogue? More research is still needed to answer this broad question. However, we would advocate giving priority to specific avenues that appear to hold more promise. These involve further reflection on the following: 1) the impact of recent workplace transformations and organizational latitude on knowledge transmission; 2) the transmission process itself and the strategies developed by experienced and new workers to build their experience, and lastly, 3) ways of increasing the visibility of experiential knowledge and skills.
Precarious employment and functional flexibility strategies are two increasingly prevalent characteristics of the workplace today. Some of their impacts on the knowledge transmission activity have been documented, but this issue warrants further investigation in other research projects conducted in other industries, particularly in relation to different types of precarious employment and employment insecurity. Additional studies of this nature should bring to light other macro-organizational factors that impact on knowledge transmission so that we can prevent adverse consequences. It would also be worthwhile to study positive experiences implemented in certain organizations that, despite the work intensification context, are succeeding in preserving their work teams and putting in place conditions conducive to a dynamic of dialogue on experiential knowledge during the work activity.

The knowledge transmission activity, like any work activity, is a process that evolves over time as the different facets of the occupation are learned and through the concrete work situations to which the worker is exposed. Although organizations rely on experienced workers to ensure knowledge transmission, we know very little of the ways in which these workers try to meet these expectations. It would be helpful if we were to gain a better understanding of the strategies developed by these workers and of the ways in which they adapt to new workers’ knowledge acquisition processes. It would also be beneficial to examine the new workers’ perspective. How do they learn the ins and outs of an occupation in real work situations? What learning strategies do they use? How do they internalize the knowledge transmitted? What conditions foster learning and occupational integration? To answer these questions, we believe that the role of the work team as a player in the transmission process must also be examined in greater depth.

In conclusion, further research is needed to test the importance of experiential knowledge and skills in ensuring efficiency and service quality, and in preserving worker health within organizations. This experiential knowledge is built in tandem with changes occurring in the organization, while also conveying the occupational culture and values. Though this experiential knowledge will never be completely formalized, we believe that it is important for more research to be conducted on the places, moments, spaces, and conditions which are conducive to the building, sharing, and evolution of such knowledge within changing contexts, all from a learning support perspective.
Notes

1 All the results obtained regarding the knowledge transmission activity per se, i.e. the action scenarios vital to carrying out the work, the strategies used to transmit the knowledge and skills utilized in these situations, the workers involved in the transmission process, the locations and times when the transfers take place, as well as the mechanisms implemented to support knowledge transmission, are detailed in Cloutier et al. (in press).

2 The orientation program that has been in place for only three years is reduced to a strict minimum. After an initial administrative introduction, the new food service helpers start their task training in the context of the orientation program per se, which lasts from two to three days depending on the establishment. They are thus introduced to each of the work stations by a designated worker during a 30-minute period. The probation period is 30 days.

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Knowledge Transmission in Light of Recent Transformations in the Workplace

In a context of changing demographics and transformations to the world of work, concerns about age management are gradually turning into concerns about knowledge management. The vast experiential knowledge and diverse skills developed by workers to cope with the numerous situations encountered in the course of their work and to protect themselves against risks to their health and safety constitute part of the intangible assets vital to the sustainability of worker expertise and even the survival of the organization. Management practices play an important role in helping safeguard experiential knowledge in organizations. However, the transformations that have been taking place in recent years in response to an unstable economic climate have driven organizations to introduce a number of changes in workplaces. Three case studies, conducted in Quebec, each focused on the study of a specific occupation (film technicians, food service helpers, and homecare nurses), and based on interviews and observations made in the field, will be presented in an effort to describe the impact of some of these changes, namely precarious employment, flexible management practices and work intensification, on knowledge sharing in real work situations. The results suggest that by undermining work teams and increasing the workload of experienced workers, these changes actually hinder the knowledge sharing process. In fact, in such a context, the work teams are continually being reconfigured, which can demotivate experienced workers who constantly have to initiate new recruits despite already having a work overload. Possible avenues for research are proposed with a view to helping organizations cope with these changes in a way that supports the experiential knowledge transfer and sharing process so vital to organizational performance and the preservation of worker health.

KEYWORDS: knowledge management, organizational context, flexibility, precarious employment, work intensification
**RÉSUMÉ**

La transmission des savoirs à la lumière de transformations récentes des milieux de travail

Dans un contexte de mutations démographiques et de transformations du monde du travail, les préoccupations pour la gestion des âges se sont progressivement transformées en préoccupations pour la gestion des savoirs. En effet, les nombreux savoirs développés avec l’expérience par le personnel pour faire face aux multiples situations rencontrées dans l’exercice de leur travail et se protéger des risques à leur santé et à leur sécurité constituent une part du capital immatériel essentiel pour la pérennité de l’expertise, voire la survie de l’entreprise.

Les pratiques de gestion occupent une place importante pour assurer la sauvegarde des savoirs dans les entreprises de même que le contexte organisationnel. Or les transformations du monde du travail des dernières années en réponse à un univers économique instable ont poussé les entreprises à introduire de nombreux changements dans les milieux de travail. Trois études de cas menées au Québec, portant sur un métier donné (technicien de cinéma, aide en alimentation, infirmière en soins à domicile), et s’appuyant sur des entrevues des observations sur le terrain, seront présentées pour tenter de.describe l’influence de certains de ces changements, telles que la précarité d’emploi, la flexibilité et l’intensification du travail sur la transmission des savoirs en situation réelle de travail.

Les résultats suggèrent que ces changements, en fragilisant les collectifs de travail et en augmentant la charge de travail des expérimentés vont agir comme un frein à la transmission des savoirs. En effet, dans un tel contexte, les équipes sont en continuelle recomposition, ce qui peut démobiliser les expérimentés qui doivent constamment initier de nouvelles recrues alors qu’ils sont déjà surchargés. Des pistes de recherche sont proposées afin de pouvoir composer avec ces changements de façon à mieux soutenir la dynamique de transmission et de partager des savoirs d’expérience essentielle à la performance organisationnelle et à la préservation de la santé des personnes.

**MOTS-CLÉS :** gestion des connaissances, contexte organisationnel, flexibilité, précarité, intensification du travail
RESUMEN

La transmisión de saberes a la luz de las transformaciones recientes de los medios laborales

En un contexto de mutaciones demográficas y de transformaciones del mundo del trabajo, las preocupaciones sobre la gestión de las edades se han transformado progresivamente en preocupaciones sobre la gestión de saberes. En efecto, los numerosos saberes desarrollados por el personal mediante la experiencia, haciendo frente a múltiples situaciones encontradas en el ejercicio de su trabajo y protegiéndose de los riesgos de salud y seguridad, constituyen una parte del capital inmaterial esencial para la perennidad del saber experto, e incluso para la sobrevivencia de la empresa.

Las prácticas de gestión ocupan un lugar importante para asegurar la preservación de los saberes en las empresas e, igualmente, del contexto organizacional. Pero las transformaciones del mundo laboral de los últimos años en respuesta a un universo económico inestable han llevado a las empresas a introducir numerosos cambios en los medios de trabajo. Se presentan aquí tres estudios de caso, centrados sobre el estudio de oficios específicos (técnico de cinema, ayudante en alimentación, enfermero de cuidados a domicilio). Apoyándose en entrevistas y observaciones de terreno, se intenta describir la influencia de ciertos cambios, como la precariedad de empleo, la flexibilidad y la intensificación del trabajo, sobre la transmisión de saberes en situación real de trabajo.

Los resultados sugieren que esos cambios, al fragilizar los colectivos de trabajo y aumentar la carga de trabajo de los trabajadores experimentados, van a actuar como un freno a la transmisión de saberes. En efecto, en un tal contexto, los equipos están en continua recomposición, lo que puede desmovilizar los empleados experimentados que deben constantemente iniciar los nuevos reclutas cuando ellos ya están sobrecargados. Se proponen ciertas pistas de investigación con el fin de poder transigir con esos cambios de manera a sostener mejor la dinámica de transmisión y la manera de compartir los saberes de experiencia esencial al rendimiento organizacional y a la preservación de la salud de las personas.

PALABRAS CLAVES: gestión de conocimientos; contexto organizacional; flexibilidad; precariedad; intensificación del trabajo