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Abstract

More Canadians are working in professional jobs (Livingstone 2014). Since professional work has long been highly skilled, high-paying and secure, this appears to be good news for Canadian workers. There are signs, however, that the nature of professional work has been changing. As part of a broader study exploring changes to professions and work in Canada, we conducted interviews (n=23) with experienced nurses and engineers in Ontario and carried out a national survey (n=3,000). On the surface, these professions appear to provide excellent employment prospects. University graduates in engineering earn considerably more than their counterparts in most other disciplines. Reports of a nursing shortage in Canada suggest the potential for expanded labour market opportunities. However, our interviewees painted a more complex and possibly bleaker picture of current working conditions and career opportunities, one characterized increasingly by precarity, short-term contracts, and distinctive challenges associated with establishing professional careers. In this paper we explore the implications of recent workplace change for professional knowledge and skill acquisition. We argue there is evidence that professional knowledge is changing in fundamental ways.

Introduction

Canada, today, has a knowledge-based economy. Increasing proportions of jobs and of tasks in jobs involve processing information while declining proportions of jobs are in materials processing activities. Growing proportions of jobs are designated as professional, distinguished by forms of specialized knowledge. Professional work has historically been among the most privileged in the Canadian labour market, providing workers with good pay, job security, autonomy, and greater opportunity to utilize their capacities (Adams and Welsh 2007; Coburn 1994). While the expansion of professional work in Canada appears to provide good news for Canadian workers, scholars point to several troubling labour market trends including the

expansion of precarious work (Lewchuk et al. 2013), work intensification (LeFevre et al. 2015; Hart and Warren 2015), and credential inflation (Livingstone 2009), to name a few. The extent to which these challenges affect, and perhaps threaten to transform, professions in Canada has not been very fully explored. In this paper, we explore the changing nature of professional careers, and consider the impact of workplace and labour market change on professional knowledge and skill, through a case study of the well-established professions of engineering and nursing. We draw on interviews with 23 experienced professional practitioners, as well as national survey data on professions in the Canadian labour force, to consider the impact of workplace change on the depth and breadth of professional knowledge.

Literature Review

Since the 1980s, various scholars have identified challenges facing professions in Western societies, arguing that a confluence of forces and trends are undermining professional power. In the 1970s and 1980s, t K H μ G H S U R I H V i s i R e D i e l a J w o r k P a s s a g e i l t o n t h e p r i v i l e g e s o f e s t a b l i s h e d p r o f e s s i o n s (Haug 1975, 1980; Rothman 1984). On one front, it was claimed,

perspectives cast knowledge that has depth and breadth as potentially inefficient. Workforce change may be encouraging professional workers to specialize more narrowly, to follow orders, and to exercise less or at least more constricted judgment on the job.

This paper seeks to identify the workplace pressures affecting professional workers in nursing and engineering, and consider the implications of these pressures for their knowledge, skill and judgment. Engineers and nurses are ideal for such comparative ca

In the first part of the paper we provide a brief overview of changes within the professional workplace drawing on national survey data. Then we present findings from our in-depth interviews with 23 experienced nurses and engineers about the key challenges and changes affecting their professions. We highlight the concerns they raised about the impact of workplace change on their skill and knowledge. We conclude with a consideration of the implications of these apparent trends on workers, with a focus on deskilling, career narratives, ethical practice,

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A Brief Statement on Methodology

Data for this paper come mainly from oral history interviews with experienced registered nurses and licensed professional engineers. 3 D U W L F L S D Q W V D O O K D G R Y H U W H Q working somewhere in Ontario. Professionals were asked about their own career histories, and they were asked about the key changes and challenges affecting their professions and professional work. Although there were few questions directly asking about professional knowledge and skill, our participants raised these issues often. Interviews lasted between 30 and 90 minutes, and all but one were recorded and transcribed. Interviews were conducted over the phone, in person, and over skype, depending on the location and preference of the participant. This research was approved by two university ethics review boards.

Respondents had between 15 and 45 years of work experience. They were employed in a variety of workplace settings and sectors, and held a variety of roles. Of the engineers (n=15), 7 of the participants were men, while 8 were women. Most were Canadian trained, and only 3 were members of visible minorities. Of the nurses (n=8), 6 were women, 2 were men, while

only one received initial professional training outside of Canada and none were members of a visible minority. All names used in excerpts below are

x 3 U R I H V V L R Q D r a t i v e S i g n e r H i s y e
Specialized knowledge to perform the
job, and regulatory provisions granting market privileges, make them more

Professional employer	2	5	5	2	2
Self-employed professional	14	15	13	14	11
Professional manager	11	10	14	21	26
Professional employee	73	68	63	63	61
N	242	191	1173	314	741

Sources: Clement and Myles (1994); Livingstone (2012); CWKE 2016 survey.

These findings should help to clarify the professionalization and de-professionalization/proletarianization theses. They suggest that the employed labour force generally is professionalizing in terms of the increasing proportion of professional occupations. But they also suggest that increasing class polarization amongst professionals may be occurring: on one hand, the greater numbers of professional managers may be gaining relatively greater workplace power; on the other hand, the declining numbers of professional employees may be losing workplace control and facing continuing challenges to asserting wider claims to professional status. However, it should also be noted that with regard to organizing capacity, professionals generally have been found to be more likely to be members of either unions or associations than those in most other occupational groups (Raykov and Livingstone 2014).

The largest of these surveys, in 2004, permitted more detailed comparisons of engineers, nurses and several other larger professional occupations (Clark et al 2012). That survey confirmed that the vast majority of engineers (83%) were men while the vast majority of nurses (94%) were women. With regard to class position, the majority of nurses (65%) were found to be employees while only a minority of engineers (40%) were; more engineers were in managerial or ownership positions. These sex and class differences may both be related to significant differences in general working conditions, including a higher incidence of alternating shift schedules (74% vs. 13%) and lower participation in organizational decision-making (35% vs. 57%). Nurses were among the most highly organized in both unions and

associations, whereas engineers were less highly organized and very unlikely to be members of unions.

The current national survey and the linked surveys and in-depth interviews with Ontario nurses and engineers are intended to further assess the patterns found in these prior surveys as well as to pursue issues raised by the oral histories.

Challenges affecting professional knowledge in nursing and engineering.

The majority of our nursing and engineer participants said they acquired their core professional skills on the job. They learned by doing. While they acknowledged that university education was important, practical training, learning and development were seen as essential:

I think the most learning occurring will be on the job. Like ... universities are very academic.

7KH\ JLYH \RX WKH IXQGDPHQWDOV , ZLOO VD\ « %XW LQ \ doing the work. (Katherine, engineer, manager).

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The skills you use on the job are acquired on the job. Real work gives you the core training you need. (Hans, engineer, manager).

It's good to start. I always had lots more to learn, but it was good. (Nellie, Registered Nurse, employee)

Eventually they may become an expert in what they do but that takes a while. They are not experts the first day they graduate from nursing school or university. (Charlotte, Registered Nurse, employee)

It's my belief that university teaches you how to think about learning to do these things on the job. You can't possible learn all these things you need to know. You need to learn the tools to be able to do it once you get out there. (Cathy, Registered Nurse, employee)

Nevertheless, in both professions, our participants suggested that on-the-job training was harder to obtain now than in the past. The experiences of engineers and nurses were distinct, and will be discussed separately.

The decline of mentorship and formal training programs has been particularly hard on new engineers. Companies want to hire experienced workers, and are less willing to invest in someone fresh out of school, leaving fewer employment opportunities in engineering for new graduates:

6 R ZLWKLQ \ HDUV RI JUDGXDWLQJ HQLLQHHUV « SHRSOH K per cent of them are in a job requiring an engineering degree. So, that's really kind of dismal, kind of sad « > (P S O R A H D L I N G Or people who are highly experienced. It's not going to fit. Those new grads, don't have the experience, right? [There are] not enough jobs for the people with the skill levels that we have. (Lisa, engineer, manager).

R L J K W Q R Z o f a W K H L U o n t h e G So the engineers who are graduated, it is difficult for them to find the work they need to develop their skills. (Katherine, engineer, manager).

Finding it difficult to get a job in their field, many young engineers are returning to school to get advanced degrees. Pursuing advanced education may be a strategy to acquire knowledge, since opportunities to learn on-the-job are increasingly few and far between.

So the challenge for the students now is where do you get that training? Do you have to go back to college? Do you, you know, do your Masters? Like it seems a lot more common that the kids V W D \ L Q D Q G G R W K H L U 0 D V W H U V W R M X V W J H W W K D W H [W U was more of a partnership between the stud H Q W V D Q G W K H H P S O R \ H U V W K D W ¶ V C observation. (Sarah, engineer, owner)

Many participants argued that younger engineers were seeking out Masters and PhD degrees to make up for the lack of on-the-job training, and to improve their chances of getting employment in the field. Some argued that employers were partly responsible for driving this credential inflation:

There has been a shift in the domestic market, where companies increasingly want people with Masters and PhD degrees, and experience. This can lead to market difficulties for graduates. (Hans, engineer, manager).

Overall, then, experienced engineers argued there had been significant changes to engineering employment and training that were hitting new engineers particularly hard.

Opportunities for on-the-job training and mentorship had decreased, and the pace of work had intensified. Only 30% of engineering graduates could find work in the engineering field (see also OSPE 2015). As a result, new graduates were getting more education to make up for the lack of on-the-job training and career opportunities.

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engineers argued that the impacts were potentially profound. Sometimes workers had no opportunity to acquire the detailed technical and practical skills they needed to succeed:

Some of the new engineers we hired « WKH\U H IRUFHG WR OHDUQ RQ WKH MR training program « , JXHVV LWV XS WR WKHP WR JR DQG OHDUQ ZKD WKLQN LWV UHSDUDE WKLQN LWV D SUREOHP 5XWK HQJLQ

People are basically expected to jump into the deep end of the pool, and swim. II WKH\ GRQW VZL WKH\U H WROG WR the OHSYH And as a result they tend to struggle around ZDWHU SDGGOLQJ LQVWHDG RI VZLPPLQJ ULJKW" \$QG XP« suffers until the person gets a deeper knowledge of the operation a QG ZRUN WKDWV UHTXLU how to do that particular work. (John, engineer, employee)

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required skills have shifted. New graduates may need skills their predecessors did not, especially soft skills:

Nursing

Nurses

for better understanding shifts in professional knowledge forms that likely speak in a more subtle tone to the processes of deprofessionalization and deskilling.

These observed skills changes, and shifts in knowledge development have numerous implications for professional careers. And so, stemming from our initial findings, in our research we are particularly interested in developing the following themes.

Deskilling and skillupgrading

Several years ago, scholars critiqued the deprofessionalization and proletarianization theses, arguing that professions had successfully protected their core skills, and professionals combatted deskilling by developing new professional knowledge (Freidson 1983; 2001; Coburn 1994; Reich 2012). Our findings too suggest that as some traditional skills are undermined, new skills are gaining prominence. However, we argue, there is evidence that the new skills are fundamentally different in character. Opportunities for acquiring deep knowledge and core

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knowledge may increasingly be narrow and pragmatic. New skills include those

ethics, in favour of the economic bottom line. Likewise, the question of professional ethics lurks within WKH GHVFULSWLRQV RI QXPVHMZRNLOKOHV DV ZH Confusions of new work models as well as the addition of new occupations to the health care labour process. Nurses seem to actively take on a consideration of what is cost-effective in the course of professional judgment-making even while they wring their hands with concern. Thus, workplace trends, and trends in skill upgrading and deskilling, have implications for professional ethics that should be explored in more detail.

Class issues:

Are different classes of professional skills affected differently? Is it the case, for instance, that engineering managers and employers are able to develop and enhance their skills, while engineering employees suffer skill loss? The limited prior survey evidence suggests that professional employees may be relatively disadvantaged in recognition of their specialized knowledge in some instances (Livingstone 2014). More generally, professional employees have previously been found to have relatively low levels of underemployment compared to other hired employees (Livingstone 2009). But, is underemployment increasing with the growing numbers and supply of qualified professionals generally and engineers and nurses in particular?

In terms of career development profiles, changing class composition as well as upward mobility into managerial roles and ownership class positions with attendant increases in workplace control should be taken into account in further comparative studies of professionals. Is the growing proportion of managers among professionals limiting interest in continuing development across the areas of defined by the established tenets of professional skill and knowledge, for example?

Moreover, with regard to professional ethics, the differential power in different class positions entails different constraints on professional choices. Do professional owners, managers and employees perceive the ethical conduct of owners and workers or the working conditions in their organizations differently? Are professionals in some class positions more concerned with maintaining professional standards than are others, in these times of rapidly changing working conditions?

All of these class issues have received little attention to date in studies of professionals and all warrant continuing systematic comparative empirical analysis, such as we intend in the current project.

Concluding thoughts:

Our research raises concerns about the prospects for professional employees. Their opportunities for learning and development may be changing as employers steer away from organized on-the-job training and mentoring, and at times endeavour to replace professional workers with lower-cost, less-skilled alternatives. These trends combine with work intensification, and in some cases the introduction of new work models, to challenge professional autonomy, and undermine opportunities for deep knowledge and skill acquisition. The implications of these changes are potentially far-reaching.

We have begun to argue that certain patterns of deskilling and skill-upgrading are involved, but that understanding these requires careful attention to experiences on-the-job that appear to be increasingly contingent on various organizational, sectoral and political economic pressures. We have also identified the relevance of career narratives. In this regard, our premise is that an understanding of the ongoing construction of these narratives forms an essential part of

the explanation of the trajectories upon which a profession and the professionals that constitute it develop. Here again we find evidence of an array of pressures shaping these narratives in new ways. For those we spoke with, each of these sets of changes raises ethical concerns that warrant further analysis. With regard to class analysis, all we can say with any confidence at this point is that the proportion of the employed Canadian labour force in professional classes has been growing, and that the relative proportion of professional managers has been increasing while the proportion of professional employees has been shrinking. While our oral history interviewing has provoked a number of preliminary insights, in point of fact it does not contain a sufficient number or range of engineers and nurses in different professional class positions to draw any further conclusions. Analysis of the 2016 national survey, which has just been completed, and the soon to be conducted large survey and in-depth follow-up interviews with Ontario nurses and engineers should permit more systematic analysis of the class differences on the issues identified in this paper. Indeed, we argue, it is only by combining the study of professions and professional labour/learning processes, with a study of broader shifts in the labour market and the Canadian class structure, that we can expose the underlying trends, and understand that change to professional work may reflect broader societal changes affecting work and workers more generally.

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