



Tipping point for teachers? Changing working conditions and continuing learning in a 'knowledge economy'

D. W. Livingstone

To cite this article: D. W. Livingstone (2018): Tipping point for teachers? Changing working conditions and continuing learning in a 'knowledge economy', International Journal of Lifelong Education

To link to this article: <https://doi.org/10.1080/02601370.2018.1483439>



Published online: 18 Jun 2018.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

ARTICLE



Tipping point for teachers? Changing working conditions and continuing learning in a 'knowledge economy'

D. W. Livingstone

University of Toronto, Toronto, Canada

ABSTRACT

The basic argument of this paper is that, in the wake of austerity measures against public education accumulating since the early 1980s, professional teachers at all levels may have been losing control of their jobs and faced decreasing opportunities for continuing their own learning. Empirical evidence is drawn mainly from a unique time series of Canadian national surveys which provide data on the working conditions and continuing learning practices of both teachers and the entire labour force in Canada between 1982 and 2016. The main findings are that there have been major reductions in teachers' participation in organisational decision-making, sharply declining recent incidence of participation in both continuing further education and job-related informal learning, as well as a strong association between decreasing job control and declining continuing learning trends. The major implication is that teachers' work and learning may be reaching a tipping point after which established forms of effective teaching may no longer be sustainable. Further studies to confirm these findings and assess their potentially very serious implications are urgently needed.

KEYWORDS

Teachers' work; teachers' continuing learning; teachers' job control; teachers' work and learning; professional development

Introduction

Around 1980, profitability and debt crises led governments in most advanced capitalist societies to begin to make relative reductions in various social provisions including public education. Since that time, public education has witnessed an accumulating series of reorganisational initiatives by various governments with the primary aim of 'doing more with less'. A defining feature of this 'neo-liberal' era has been relative austerity in expenditures on education and other social entitlements with claims of limiting tax increases and public debt, coupled with the aim of revitalising private market forces. Educational institutions have been subject to an array of new processes to standardise services and measure performance intended to ensure greater accountability for money spent. Many of the damaging consequences of these measures for teachers and students have been documented (e.g. Carter & Stevenson, 2012; Chalari, 2016; Robertson, 2008; Sears, 2003). In the ensuing decades the context for teaching has become increasingly challenging as more diverse learners seek more advanced formal education under constraints of government austerity and mounting personal costs. But there has been little attention to changes in relations between teachers' work and their own learning activities. This paper addresses this gap.

Teachers' knowledge and power

Professional employees have been heralded as pivotal to productivity and profitability in emergent 'knowledge economies' based increasingly on cognitive labour (e.g. Drucker, 1998). While there is much dispute about the extent to which 'knowledge economies' have actually been realised (see Livingstone and Guile, 2012) and the term 'knowledge workers' has been used quite indiscriminately (see Kincheloe, 1999), teachers continue to be among the most essential professional employees given their centrality to reproducing a knowledgeable workforce and an informed citizenry (e.g. Hargreaves, 2003). Lay people often assume that teaching is not a very challenging job. But the most thorough reviews of teacher development have found that irreducible complexity is the central feature of teachers' work (Bransford, Darling-Hammond, & LePage, 2005, p. 1):

On a daily basis, teachers confront complex decisions that rely on many different kinds of knowledge and judgment and that can involve high-stakes outcomes for students' futures. To make good decisions, teachers must be aware of the ways in which student learning can unfold in the context of development, learning differences, language and cultural influences, and individual temperaments, interests and approaches to learning.

The central challenge is in the actual transmission to and stimulation of increasingly diverse arrays of learners in complex, creative ways. As Raewyn Connell (2009, p. 9) reminds us:

Teaching as a form of work is difficult to pin down because it involves an unspecifiable object of labour, a limitless labour process, and is, in a sense, unteachable. Teaching is always transformative labour, bringing new social realities into existence; and it is also fundamentally interactive...

In planning their own work, teachers have to make continual decisions about a very complex array of teaching tasks within their classrooms. These range from teaching and assessing to counselling and coaching. Many of these decisions need to be made on the spot with little time for consultation or reflection and have rested solely with teachers. Given the complex interactive nature of teaching, teachers need substantial discretionary control of this labour process to conduct their work effectively, as well as significant time and incentives to engage in their own continuing learning practices. Two basic forms of continuing learning are generally recognised: further adult education courses in educational institutions and informal learning activities conducted alone or with peers (e.g. Rubenson, Desjardins, & Yoon, 2007).

The often complex knowledge of those with little power is commonly hidden in the workplace, while knowledge of the powerful is widely recognised and rewarded (Livingstone and Sawchuk, 2004; Livingstone, 2011). We posit that the limited public recognition of most teachers' complex knowledge is intimately related to their constrained exercise of power as hired employees and that declining power is now diminishing their opportunities for continuing knowledge development.

This paper offers some evidence on how the job control and learning practices of the teaching force in the advanced capitalist country of Canada have been affected by cumulative austerity measures and suggests that teachers are now nearing a 'tipping point'. A tipping point in this regard is a point beyond which many teachers are no longer effectively enabled to creatively transmit knowledge and stimulate learning among their students.

The basic argument is that teachers' workload and stress levels have intensified, their loss of control over their working conditions has increased severely, the numbers underemployed in their jobs and employed precariously have increased greatly and the rates of participation in continuing further education and job-related informal learning have been dropping rapidly. This combination of conditions is making it increasingly difficult for teachers to teach effectively.

The empirical evidence for this assessment is drawn primarily from a distinctive series of national labour force surveys conducted in Canada between 1982 and 2016 and each survey includes a subsample of elementary-secondary, post-secondary and other teachers (see Appendix 1). All findings reported here refer to teachers at all levels unless otherwise specified. One limitation of the estimates of job-related informal learning in these surveys, as in all others, is the restriction to self-reported intentional informal learning which underestimates the full extent of informal learning (see Schugurensky, 2000).

Changing working conditions

The most substantial changes in the general class structure of advanced capitalist societies in this period have been: the decline of traditional working-class jobs with de-industrialisation; the growth of professional employees with the diffusion of a ‘knowledge economy’; an increase of managerial jobs for control and surveillance of a non-managerial labour force characterised by growing financial and other services and widening precariousness of hired labour (see Livingstone and Scholtz, 2016; Standing, 2011). Most prior analyses of professionals’ working conditions have paid little attention to class distinctions among them. Four basic class positions should be recognised: professional employers, self-employed professionals; professional managers and professional employees (see Livingstone, 2014). An analysis of the above surveys has found that these professional classes have all increased as components of the general class structure and that professional managers have increased along with other managers. In addition, the job control of the growing numbers of professional employees appears to be declining; conversely, the job control of the declining numbers of industrial and service workers seems to be increasing somewhat with more discretionary mediation of automated machinery rather than manual tasks, their very substantial increase in educational qualifications over this period and managerial strategies recognising both factors (see Livingstone and Watts, 2018; Mustosmaki, Oinas, & Anttila, 2016).

The changing class structure among teachers, based on these surveys, is summarised in Table 1. The most notable changes in the class structure of teachers across the board have been the growth of managers and a decline in regular, full-time classroom employees. The expansion of managerial hierarchies with larger, more centralised educational organisations includes many accountability and testing functions as well as elongated lines of supervision (e.g. Tahir, 2010). In addition to a doubling of those who are exclusively managers, there probably has been an increase in teachers who report themselves to also be supervisors or ‘lead hands’. Supervisory teachers may have formal positions such as department heads but continue to teach. Lead hands are employees with sufficient experience and competence to be recognised *informally* both by management and other non-managerial employees as mentors and co-ordinators of the teaching labour process. They may have such roles as group leader, union steward or simply trusted colleague, but they continue primarily to teach. The survey data do not permit distinguishing between formal supervisors and informal lead hands but together they are now estimated to make up around 20% of the teaching force. Lead hands have long been recognised as important in traditional working-class settings. Professional lead hands may play an especially necessary role in periods of organisational restructuring. Since the 1980s, there also may have been an increase in self-employed teachers – many of whom are freelance, temporary workers. More generally, there has been an increase in sessional teacher employees without long-term guarantees at all levels. There are variations in class distribution at different levels of the school system but increasing managerial class positions and growing precariousness of non-managerial employees are pervasive.

The most widely recognised changes in the basic working conditions of this still predominantly non-managerial teaching force have been increasing workload and mounting job stress. Workload

Table 1. Class structure of teachers, Canada, 1982–2016 (%).

Class position	1982	2004	2016
Employer	<1	1	1
Self-employed	2	9	7
Manager	4	6	11
Supervisor-lead hand*	14	18	21
Non-mgr. employee	80	66	60
<i>N</i>	84	310	202

Sources: CCS, 1982; WALL1 2004; CWKE 2016.

*Insufficient data to distinguish between supervisors and lead hands.

is measured in terms of self-reported hours of employment and designated tasks while job stress is estimated by self-reports of either physical or mental symptoms suffered from work. These basic conditions prevail in the wake of restructuring initiatives that have aimed to raise teacher and student performance on narrowed standardised criteria while restraining financial costs (Carter & Stevenson, 2012). The increasing workload for teachers has been observed throughout this period in most advanced capitalist countries. Carter's (1997, p. 208) summary from the late 1990s' UK remains widely applicable: 'With growing class sizes, more marking, more meetings, less ancillary help ... teachers are expected to do much more in the form of preparation, meetings, parents' evenings and so on'. Continuing workload increases have been documented in the UK from 1994 onward (e.g. School Teachers' Review Body, 2008). The issue of teachers' increasing workload has become sufficiently recognised that there have been numerous inquiries into means for reducing it (e.g. Gibson, Oliver, and Dennison (2015)). The major finding of the large-scale teacher surveys and case studies of elementary and secondary school teachers in Canada in 1998 and 2003 (Smaller, Tarc, Antonelli, Clark, & Hart, 2005) was the perception that workloads had increased greatly in the past five years. About 80% of those surveyed reported that their overall workload had increased. The highest increases were reported (Smaller et al., 2005) for: dealing with administrative requests for information, forms, data, student attendance (82%); time/effort required for assessing and reporting on student progress (79%); size of classes (62%). While total estimated work time increased marginally over this period (from 48 to 50 h per week), having to devote many more hours to increased changing bureaucratic requirements – and away from the central purpose of working with students themselves – probably led most teachers to conclude that their workload had increased more substantially.

About 80% of teachers in the 2003 Canadian survey also reported an increase since 1998 in stress on the job, typically related to intensified workload. Stress was probably the most common concern mentioned in the eight focus groups held across the country, as the following quotes from Smaller et al. (2005) suggest. Longer term effects include continuing increases in sick days being taken and more long-term disability leaves of absence (Janus, 2017). One secondary teacher noted poignantly, 'This was the first time in my 25-year career that I had to apply for stress leave – twice! Just look at our absenteeism in terms of stress' (p. 21).

In more everyday terms, an elementary teacher complained:

'... the new elementary report cards are just incredible. If you have that many students and you are required to test as often as they suggest and then report such microscopic detail, then at the end of everyday... I am tired everyday going home from school... it takes so long to wind down and relax' (p. 21).

Our 2016 national survey found that about 55% of Canadian teachers felt that the workload in their jobs had increased over the past five years. A 2017 UK survey has found that 75% of teaching staff in schools and colleges have suffered either physical or mental symptoms stemming from their work (Henton & Brennan, 2017); teachers describe the pace as frantic and unsustainable while head teachers panic about whether they are going to be able to staff their schools and whether they will have enough money to pay the teachers.

Among professional employees generally in Canada in 2016, around 60% perceived increased workloads over the past five years. Indeed, continually increasing workloads have become the norm among non-managerial employees in all advanced capitalist societies as work process standardisation and detailed accountability reporting to management have become more pervasive. From the standpoint of firm owners and upper managers, these conditions may be seen as quite efficient in terms of goods and services produced per labour hour. But from the standpoint of teachers and other non-managerial employees these conditions may equate to increasing exhaustion (see Yates, 2011). At very least, increasing non-teaching workloads over the past few decades indicate that teachers face serious growing challenges to find the time and energy for the effective teaching that is their central mandate.

Decreasing job control

The pivotal issue in pursuing this mandate is teachers' extent of job control. Job control is defined here in terms of technical task autonomy, the extent of discretionary control teachers have in planning their classroom work with students, and organisational decision-making power to determine the resources to be used in their teaching. At most levels, even in adult education in more progressive countries, there is increasing pressure to teach to a standardised curriculum overseen by managers with standardised testing accountability (see Fejes, Runesdotter, & Wärvik, 2016).

Analysis of professional employees in general in these 1982–2016 surveys has found that the extent of design autonomy in their work and participation in organisational decision-making have declined from levels comparable to upper managers to levels similar to traditional working-class workers over this period (Livingstone & Watts, 2018). As Table 2 summarises, teachers have exhibited similar trends.

The survey data suggest that in the early 1980s, a very high proportion of teachers – nearly 90% – felt they had general planning ability most of the time. By 2016, only two-thirds felt that way. There has been considerable recent research attention devoted to the significance of teacher agency in their classrooms (e.g. Priestley, Biesta, & Robinson, 2015) and undoubtedly such agency remains vital to effective education, albeit increasingly constrained by the above noted accountability requirements from beyond the classroom.

The relative perceived autonomy teachers have retained to teach in their classrooms contrasts with their more restricted control over their curriculum, classroom structure/size, course loads and multiple other organisational decisions that have less to do with pedagogy but directly influence their daily work lives (Reid, 2003). Table 2 indicates that from a clear majority reporting participation in 1982, only a declining minority now feel that they have any role in such decisions. The management demands imposed on teachers may be more indirect than for some other professional employees because they need to maintain a modicum of autonomy within their classrooms to conduct their interactive work with students. But such demands are increasingly perceived within the classroom.

Whether or not one takes this accumulating evidence to be part of a process of 'de-professionalisation' or 'proletarianisation' (e.g. Harris, 1981), it is becoming quite indisputable that the extent of autonomy and control that teachers (and many other professional employees) can exercise in their jobs has been seriously eroding in recent times.

Continuing learning practices

Canada now has the most highly formally educated labour force in the world, with over 60% having completed some form of tertiary schooling and the teaching force is similarly among the most highly schooled (OECD, 2018). Participation in further adult education courses has been very strongly correlated with level of formal schooling, whereas informal learning has been much more extensive with little correlation with formal schooling (e.g. Rubenson et al., 2007). Prior comparative studies of professionals' learning activities have found that teachers have historically had among the highest rates of participation of all professionals in both continuing further adult education courses and informal employment-related learning (Antonelli and

Table 2. Teachers' job control, Canada, 1982–2016 (%).

	1982	2004	2010	2016
Plan most of own work	86	78	66	66
Participate in organisational decisions	62	61	43	34
N	84	310	81	202

Sources: CCS 1982; WALL1 2004; WALL2 2010; CWKE 2016.

Livingstone, 2012). These findings are consistent with the complex interactive nature of teaching in rapidly changing cultural conditions. But, recent trends in teachers' learning practices are very troubling in this regard.

There has historically been a very strong general association between level of schooling and participation in further adult education. But recently post-secondary schooling completion rates have continued to mount, while participation rates in further education for post-secondary graduates are dropping (Felstead, Gallie, Green, & Inanc, 2013; Livingstone and Raykov, 2016). There may be various reasons for this growing general gap between formal educational attainments and further education, such as less time and energy to pursue further education in light of increasing workload, stagnant salaries that no longer reward further education and increasing underemployment of existing qualifications.

As Table 3 summarises, the trend data available since 1998 indicate that teachers' annual participation in further education courses has declined rapidly in recent years, from 85% in 1998 to 50% in 2016. This decline appears to be more rapid than the general decline in the labour force overall (Livingstone and Raykov, 2016). Not all further education is an unmitigated good and some offered courses may be regarded as counterproductive by teachers themselves. Indeed, some in-service courses may be becoming shorter, more directive and focused on implementing standardised government policies. In general, teachers' further education may have been somewhat more 'messy' than in some professions (Castle, Holloway, & Rage, 1998) and it is surely variable through teachers' careers (Louws, vanVeen, Meirink, & vanDriel, 2017). But the decrease in teachers' further education rates is problematic, given that the vast majority of further education is job-related and the need for teachers to update their knowledge related to ongoing changes in teaching conditions is very unlikely to be diminishing. The problem is underlined by the finding that the unmet demand for further education – as indicated by the proportion who were unable to take a further education course that they *wanted to* – dropped from a majority in 2004 to a minority in 2016. There is less expressed motivation to take further education even as the need for it remains the same or even increases.

Informal learning is much more extensive and time-consuming than formal further education – it is the hidden base of the 'iceberg of adult learning' (Tough, 1971; Livingstone, 2010). In particular, in-depth studies of teachers' work and learning have found that intentional informal job-related learning on one's own and with colleagues has been massively more engaged in than further education courses and more useful to many teachers in ensuring the continuing working knowledge to teach effectively (Clark, Livingstone and Smaller, 2012). In terms of professional development, a most striking finding is the very low relative importance accorded to further education courses compared to on-the-job informal learning by most teachers. While many teachers who have taken further education consider such courses to have been helpful, they tend to see their job-related informal learning as much more important and recognise it as far more extensive. There is clearly a challenge to more effectively integrate formal professional development with informal learning.

The finding that teachers' participation in job-related informal learning activities has declined from over 90% in 1998 to about two-thirds in 2016 may be the most troubling issue. This suggests

Table 3. Teachers' annual continuing learning practices, Canada, 1998–2016 (%).

Type of learning	1998	2004	2010	2016
Participation in further education	85	71	70	50
Unmet demand for further education	–	57	57	39
Participation in job-related informal learning	92	80	79	66
<i>N</i>	60	310	81	202

Sources: NALL 1998; WALL1 2004; WALL2 2010; CWKE 2016.

that much of the on-the-job learning that is fundamental to refreshing and developing the working knowledge needed to teach effectively is now at risk for growing numbers of teachers.

As a secondary school focus group participant complained in 2004, before the more recent declines in incidence of teachers' learning practices (Smaller et al., 2005, p. 23):

I'm afraid in that so many of the new teachers are 'downloading learning', with little consultation with older teachers. They will just print out missives from the Internet, put a staple in it and give it to the students so that the knowledge is not being gleaned, organized and appropriate for student learning – a lot of photocopying and not effective learning. I'm worried about the professional learning and that perhaps the blind are leading the desperate.

There are other indications of the diminishing capacity of one of the most highly formally qualified teaching forces in the world to apply the knowledge they have to teach effectively. In 1998, only 7% of teachers surveyed reported that they were underemployed in terms of the match between their level of schooling and the requirements for their job; in 2010, the figure was 21% and in 2016 it was 33%. Underemployment has become endemic in advanced capitalist societies (Livingstone, 2009). The most underemployed post-secondary graduates also exhibit the largest declines and lowest current participation rates in further education (Livingstone and Raykov, 2016). The apparently rapid increase in underemployment among teachers during the past decade suggest that deepening austerity measures since the Great Recession of 2007–2008 (e.g. Chalari, 2016) may have significantly worsened teachers' capability to apply their attained knowledge to enrich their jobs and their students' learning.

On the basis of this body of evidence, we can at least conclude that there has been a significant decline in both basic dimensions of teachers' continuing learning.

Job control and continuing learning

Prior research has found significant relations between the extent of discretionary control teachers have in their workplaces and the extent of their engagement in continuing learning practices (e.g. Webb, 2002; Su, Feng, & Hsu, 2017; Clark, Livingstone and Smaller, 2012). The working hypothesis is that the less discretion people have in their jobs, the more alienated they become and the less motivation they will have to engage in more voluntary learning in relation to these jobs. As indicated in Table 2, a declining majority of teachers have continued to feel that they still have some meaningful control of their work within their classrooms; but the proportion who have a discernible role in the organisational decisions beyond the classroom that impact what they can do within it has declined to around a third recently. As Table 4 shows, there is a strong ongoing relationship between participation in organisational decision-making and participation in both further education and job-related informal learning.

While teachers' involvement in organisational decision-making and their participation in both further education and job-related informal learning all have declined significantly during this period, those who are involved in organisational decisions have significantly more engagement in both aspects of continuing learning. Most notably, in 2016 those involved in organisational decision-making are much more likely (81%) to also be involved in job-related informal learning

Table 4. Organisational decision-making role by participation in further education and job-related informal learning, teachers, Canada, 2004–2016.

Organisational decision-making role	Further education		Job-related informal learning	
	2004	2016	2004	2016
Yes	77%	61%	85%	81%
No	62%	45%	74%	57%
Gamma value	.336 .291 (.007) (.027)		.323 .519 (.025) (.000)	

Sources: WALL1 2004; CWKE 2016.

than ‘non-decision-makers’ (57%). These may seem to be modest differences given that around half of teachers are still reporting annual participation in both further education and job-related informal learning. But teachers’ continuing learning, especially through extensive on-the-job informal learning, is the lifeblood of effective teaching. The trends in these relations between job control and continuing learning suggest that soon only a minority of teachers could be engaged in either type of continuing learning – a potential death knell for collective continuing professional development and at least indicative of a severely diminishing capacity to refresh teacher knowledge for effective teaching.

Conversely, teachers’ greater involvement in decision-making beyond the classroom, especially in the design and delivery of professional development programmes, could reinvigorate continuing learning, bringing further education and informal learning experiences closer together by giving greater recognition to prior learning through everyday work practices.

Teachers’ negotiating power

In contrast to decreasing general unionisation rates in most advanced capitalist societies, professional employees, who are primarily in the public sector and predominantly women, are now among the most highly organised non-managerial workers (Livingstone and Watts, 2018). According to these teacher surveys, around 75% of teachers in Canada in 2016 were members of unions, associations or both. There has also been an increasing tendency for associations of teachers and other professional employees to affiliate with the national congress of trade unions. Organised teachers are generally very highly formally educated and highly concentrated in large public institutions where they can be relatively easily mobilised. In spite of increasing legislative constraints on organising in some jurisdictions, teachers’ potential to negotiate improved working conditions and learning provisions is now probably as great as any non-managerial group.

But up to this point, this potential negotiating power has been seriously underused in Canada and elsewhere (see Carter, Stevenson, & Passey, 2009). A few indicative survey findings: unionised teachers in Canada in 2016 were more likely than non-unionised teachers to experience employee reductions in their workplaces in recent years (70% vs. 56%); more likely to experience increased workload (60% vs. 42%) and more likely to be overqualified for their jobs (41% vs. 30%). There are undoubtedly many reasons for non-unionised teachers to be relatively spared in these respects, such as employers targeting unions for cost reductions because they represent most of their employees. Perhaps consequently, unionised teachers were more likely to want more say in organisational decisions (56% vs. 33%). The demand among organised teachers for reversing the recent declines in job control is now a significant resource available for their professional organisations to mobilise.

Alternatives

Moving forward, there are at least three alternatives for teachers: pragmatic acceptance, situational resistance or progressive renewal (compare Carter et al., 2009). The most likely prospect is probably pragmatic acceptance of continuing austerity moves by state regimes to restructure teaching for greater cost efficiencies, with diminishing job control for and decreasing continuing learning by most teachers. Somewhat comparable to the incremental changes that have led many civilisations to collapse (Diamond, 2005), the continuation of these current under-appreciated trends could mean the end of effective interactive teaching at some point. Massive accumulating scientific evidence has now convinced most informed people that global warming threatens human survival (including over 70% of Canadians in the 2016 survey), even if most have limited direct personal evidence to this effect. Adaptive governmental measures have at least begun. Systematic evidence of the extent of threat to teachers’ effective work and learning remains miniscule with little collective conscious awareness even among teachers themselves. Currently, many teachers’ associations and unions appear to have few inklings of how perilous their

members' work and learning conditions might be, beyond wages, benefits and specific grievances. Government and union negotiations that focus on benefits packages and reforming teacher training techniques without addressing more serious threats to teachers' working conditions and continuing learning are whistling in the dark – the 'blind leading the desperate'.

The lack of recognition of these threshold conditions means that situational resistance by teachers to continuing austerity measures will probably occur periodically in terms of specific issue bargaining, demonstrations and strikes at different levels of the educational system. With little current co-ordination between teacher organisations in multiple jurisdictions and lack of critical overview, such spasmodic shocks offer existing regimes opportunities for further 'creative destruction' of teachers' established entitlements. Some teacher union resistance will likely continue to be focused narrowly on such issues as seniority and pensions. But the increasing depth of austerity measures in the decade since the global financial meltdown has provoked teacher and student strikes and protests of increasing size and scope in Canada and globally (e.g. McGray, 2015; Sears, 2012).

Progressive renewal of effective teaching can occur with the impetus of teacher movements and allies. An effective sustained educational reform movement needs a critical analysis, a clearly desirable alternative and a viable strategy for change. A few elements of a critical analysis of teachers' work and learning are offered above. A desirable alternative would involve a vision of teaching and learning that recognises teachers as highly qualified professionals with the capacity to regulate their own working conditions and learning practices in equitable negotiation with funding authorities and genuine consultation with their clients. A viable change strategy would entail grassroots organising at many worksites, collaboration between different teacher organisations and support from other labour and community organisations and collective courage to fight for fair and full education rights for all. A tall order. But the recent series of teacher strikes and protests in Chicago (Ashby, Ashby, & Bruno, 2016) and more recent success in West Virginia (Macalevey, 2018) are hopeful examples of progressive change with larger educational visions and alliances.

Concluding remark

The empirical evidence here is largely drawn from a series of large-scale surveys in one country and other more anecdotal data. Further research is needed to confirm more widely and deeply the trends and relations identified. But it is reasonable to conclude that under austerity, teachers' job control and continuing learning activities have both been declining significantly. Democratising work reforms that increase teachers' job control and thereby enhance utilisation of their teaching skills could serve to reverse their declining incidence of professional learning through further education and informal job-related learning. Such reforms could also increase teachers' prospects to contribute more fully to the development of knowledgeable workers and informed citizens in emergent 'knowledge economies'. Without democratising work reforms, the tipping point for the demise of effective teaching may be nearer than we might think.

Acknowledgements

This work was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC) under grant number 435–2015–0732, the Changing Workplaces in a Knowledge Economy (CWKE) project and secondary data were drawn from several previous projects funded by the SSHRC. I am grateful to Bob Carter, Rosemary Clark, Raewyn Connell, George Martel, Wally Seccombe, Harry Smaller and two anonymous IJLE reviewers for comments on a prior draft of the paper and to Brendan Watts for conducting the statistical analyses.

Disclosure statement

There are no financial interests or benefits arising from the direct applications of this research.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC) under grant number 435–2015–0732, the Changing Workplaces in a Knowledge Economy (CWKE) project, and secondary data were drawn from several previous projects funded by the SSHRC.

Notes on contributor

D. W. Livingstone is Canada Research Chair in Lifelong Learning and Work and Professor Emeritus at OISE/ University of Toronto. Books include: *Education and Jobs* (University of Toronto Press, 2009), *Lifelong Learning in Paid and Unpaid Work* (Routledge, 2010), *Manufacturing Meltdown* (Fernwood, 2011), *The Knowledge Economy and Lifelong Learning* (Sense Publishers, 2012), *Teacher Learning and Power in the Knowledge Society* (Sense Publishers, 2012), and *Restacking the Deck* (CCPA, 2014).

References

- Antonelli, F., & Livingstone, D. W. (2012). *Teachers' and other professionals' learning practices: a comparative analysis*. In R. Clark et al. (Eds.), *Teacher Learning and Power in the Knowledge Society* (pp. 45–66). Rotterdam: Sense Publishers.
- Ashby, S. K., Ashby, S., & Bruno, R. (2016). *A fight for the soul of public education: The story of the Chicago teachers strike*. Ithaca: ILR Press.
- Bransford, J., Darling-Hammond, L., & LePage, P. (2005). Introduction. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 1–39). Jossey-Bass: San Francisco.
- Carter, B. (1997). The restructuring of teaching and the restructuring of class. *British Journal of Sociology of Education*, 18(2), 201–215.
- Carter, B., & Stevenson, H. (2012). Teachers, workforce remodelling and the challenge to labour process analysis. *Work, Employment and Society*, 26(3), 481–496.
- Carter, B., Stevenson, H., & Passey, R. (2009). *Industrial relations in education: Transforming the school workforce*. London: Routledge.
- Castle, A., Holloway, D., & Rage, A. (1998). A review of issues in continuing professional development in teaching, nursing and radiography. *International Journal of Lifelong Education*, 17(5), 328–340.
- CCS. 1982. Data set for the Canadian class structure and class consciousness survey, 1983. Retrieved from <http://sda.chass.utoronto.ca/cgi-bin/sda/hsda?harsda+csc83>.
- Chalari, M. (2016). Crisis, austerity and its impact on education in Europe and Greece. *Educate*, 16(1), 15–24.
- Clark, R., Livingstone, D. W. and Smaller, H. (Eds.). (2012). *Teacher learning and power in the knowledge society*. Rotterdam: Sense Publishers.
- Clement, W., & Myles, J. (1994). *Relations of ruling: Class and gender in post-industrial societies*. Montreal: McGill-Queen's University Press.
- Connell, R. (2009). The work of teaching. *History of Education Review*, 38(2), 9–16.
- CWKE. 2016. Data set for the changing workplaces in a knowledge economy survey, 2016. Retrieved from <http://www.oise.utoronto.ca/clsew/Research>.
- Diamond, J. (2005). *Collapse: How societies choose to fail or survive*. New York: Penguin Books.
- Drucker, P. (1998). *Peter Drucker on the profession of management*. Cambridge: Harvard University Press.
- Fejes, A., Runesdotter, C., & Wärvik, G.-B. (2016). Marketisation of adult education: Principals as business leaders, standardised teachers and responsabilised students. *International Journal of Lifelong Education*, 35(6), 664–681.
- Felstead, A., Gallie, D., Green, F., & Inanc, H. (2013). *Skills at work in Britain: First findings from the skills and employment survey 2012*. London: Centre for Learning and Life Chances in Knowledge Economies and Societies, Institute of Education.
- Gibson, S., Oliver, L., & Dennison, M. (2015). *Workload challenge: Analysis of teacher consultation responses* (Research report). London: Department of Education. Retrieved from: www.gov.uk/government/publications.
- Hargreaves, A. (2003). *Teaching in the knowledge society: Education in the age of insecurity*. New York, NY: Teachers College Press.
- Harris, K. (1981). *Teachers and classes: A Marxist analysis*. London: Routledge.

- Henton, G., & Brennan, C. (2017). Job stress is ‘overwhelming’ teachers across the UK. *BBC News*. England section. September 18
- Janus, A. (2017). Dec 06. Teachers and other education workers taking more sick days, Ontario auditor general says. *CBC News*. <http://www.cbc.ca/news/canada/toronto/sick-days-auditor-general-1.4435580>.
- Kincheloe, J. (1999). *How do we tell the workers? The socioeconomic foundations of work and vocational education*. Boulder: Westview Press.
- Livingstone, D. W. (1999). Exploring the Icebergs of Adult Learning: Findings of the First Canadian Survey of Informal Learning Practices. *Canadian Journal for the Study of Adult Education*, 13(2), 49–72.
- Livingstone, D. W. (Ed.). (2009). *Education and jobs: Exploring the gaps*. Toronto: University of Toronto Press.
- Livingstone, D. W. (Ed.). (2010). *Lifelong learning in paid and unpaid work: Survey and case study findings*. London: Routledge.
- Livingstone, D. W. (2011). Knowledge, Power and Recognition of Economic Rights: Theoretical and Empirical Starting Points. In Huang Jian (Ed.), *Proceedings of 7th International Conference on Researching Work and Learning*. East China Normal University, Shanghai, China, December 4–7 (pp. 412–420).
- Livingstone, D. W. (2012). Probing the Icebergs of Adult Learning: Comparative Findings and Implications of the 1998, 2004 and 2010 Canadian Surveys of Formal and Informal Learning Practices. *Canadian Journal for the Study of Adult Education*, December 25 (pp. 47–71).
- Livingstone, D. W. (2014). Interrogating Professional Power and Recognition of Specialized Knowledge: A class analysis. *European Journal for Research on the Education and Learning of Adults*, 5(1), 13–29.
- Livingstone, D. W., & Guile, D. (Eds.). (2012). *The knowledge economy and lifelong learning: A critical reader*. Rotterdam: Sense Publishers.
- Livingstone, D. W., & Raykov, M. (2016). The Growing Gap Between Post-Secondary Schooling and Further Education: Findings of 1998, 2004, 2010, and 2016 Surveys of the Employed Canadian Labour Force. *The Canadian Journal for the Study of Adult Education*, 28(2), 1–23. ISSN1925-993X (online) www.casae-aceea.ca
- Livingstone, D. W., & Sawchuk, P. (2004). *Hidden knowledge: Organized labour in the information age*. Toronto: Garamond Press.
- Livingstone, D. W., & Scholtz, A. (2016). Reconnecting class and production relations in an advanced capitalist ‘knowledge economy’: Changing class structure and class consciousness. *Capital & Class*, 40(3), 469–93. doi:10.1177/0309816816653882
- Livingstone, D. W., & Watts, B. (2018). The changing class structure and pivotal role of professional employees in an advanced capitalist “knowledge economy”: Canada, 1982–2016. *Studies in Political Economy*, 99(1), 79–96. doi:10.1080/07078552.2018.1440983
- Louws, M., vanVeen, K., Meirink, J., & vanDriel, J. (2017). Teachers’ professional learning goals in relation to teaching experience. *European Journal of Teacher Education*, 40(4), 487–504.
- Macalevey, J. (2018), April 9. The West Virginia teachers strike shows that winning big requires creating a crisis. *The Nation*. Retrieved from www.thenation.com/article/the-west-virginia-teachers-strike
- McGray, R. (2015). Anti-austerity adult education in Canada: A survey of a nascent field. *International Journal of Lifelong Education*, 34(3), 251–267.
- Mustosmaki, A., Oinas, T., & Anttila, T. (2016). Abating inequalities? Job quality at the intersection of class and gender in Finland 1977–2013. *Acta Sociologica*, 60(3), 228–245.
- OECD. (2018). *Education at a glance 2017*. Paris: Author.
- Priestley, M., Biesta, G., & Robinson, S. (2015). *Teacher agency: An ecological approach*. London: Bloomsbury Academic.
- Reid, A. (2003). Understanding teachers’ work: Is there still a place for labour process theory. *British Journal of Sociology of Education*, 24(5), 559–573.
- Robertson, S. L. (2008). “Remaking the world” neoliberalism and the transformation of education and teachers’ labor. In M. Compton & L. Weiner (eds), *The global assault on teaching, teachers, and their unions stories for resistance*. New York: Palgrave Macmillan.
- Rubenson, K., Desjardins, R., & Yoon, E.-S. (2007). *Adult learning in Canada: A comparative perspective. Results from the adult literacy and life skills survey*. Ottawa: Minister of Industry.
- School Teachers’ Review Body. (2008). *Teachers’ workloads diary survey*. London, UK: Office of Manpower Economics.
- Schugurensky, D. (2000). *The forms of informal learning: Towards a conceptualization of the field* (NALL Working Paper 19). Toronto: Centre for the Study of Education and Work, OISE/UT. Available from www.wallnetwork.ca
- Sears, A. (2003). *Retooling the mind factory: Education in a lean state*. Toronto: University of Toronto Press.
- Sears, A. (2012), 29 March. Education and the debt crisis: Austerity in the mind factory. *Socialist Project: The Bulletin*. Retrieved from <https://socialistproject.ca/2012/03/b610/>
- Smaller, H., Tarc, P., Antonelli, F., Clark, R., & Hart, D. (2005). Canadian teachers’ learning practices and workload issues: Results from a national teacher survey and follow-up focus groups. Retrieved from November 25, 2017, www.wallnetwork.ca

- Standing, G. (2011). *The precariat: The new dangerous class*. London: Bloomsbury Academic.
- Su, Y., Feng, L., & Hsu, C.-H. (2017). What influences teachers' commitment to a lifelong professional development programme? Reflections on teachers' perceptions. *International Journal of Lifelong Education*. doi:10.1080/02601370.2017.1397786
- Tahir, T. (2010). March 30 The irresistible rise of academic bureaucracy. *The Guardian*. Retrieved from <https://www.theguardian.com/education/2010/mar/30/academic-bureaucracy-rise-managers-higher-education>.
- Tough, A. (1971). *The adult's learning projects: A fresh approach to theory and practice in adult learning. research in education series no. 1*. Toronto: Institute for Studies in Education.
- WALL I. 2004. Data set for the first work and lifelong learning survey, 2004. Retrieved from <http://www.wallnetwork.ca>.
- WALL II. 2010. Data set for the second work and lifelong learning survey, 2010. Retrieved from <http://www.wallnetwork.ca>.
- Webb, P. T. (2002). Teacher power: The exercise of professional autonomy in an era of strict accountability. *Teacher Development*, 6(1), 47–62.
- Yates, M. (2011). The human-as-waste, the labor theory of value and disposability in contemporary capitalism. *Antipode*, 43(5), 1679–1695.

Appendix 1: Basic Data Sources

A distinctive series of general national labour force surveys was conducted in Canada between 1982 and 2016 dealing with the same set of questions on occupational descriptions, working conditions, learning practices, demographics and social attitudes. These surveys include the Canadian Class Structure Survey (CCS, 1982) conducted in 1982 by Clement and Myles (1994). The NALL 1998 Survey included a larger focus on unpaid as well as paid work and formal and informal adult learning (Livingstone, 1999). The following national surveys in 2004 (WALL 2004 Survey) and 2010 (WALL 2010 Survey) used the same format and permitted documentation of trends in relations between these dimensions of work and learning (Livingstone, 2012). The 2016 survey was conducted as part of the Social Sciences and Humanities Research Council funded Changing Workplaces in a Knowledge Economy project (CWKE 2016 Survey) and focuses only on the employed labour force (Livingstone and Raykov, 2016). In all of these surveys, all respondents are over 18 years of age and coverage is limited to those who speak English or French and reside in a private home in one of the 10 Canadian provinces. It should be noted that all prior surveys were based on random digit dialling and interviews were conducted over the telephone, whereas the 2016 survey relied on telephone interviews combined with online interviews. In all surveys, the data reported are weighted by the best available census population estimates for age, sex, educational attainment and regional distributions.

The present analysis focuses on teachers who responded to each of these surveys. The surveys varied in size so the numbers of teachers in some surveys are relatively small, as specified in the tables in the text. But the proportions of professional teaching occupations in the employed labour force in the closest versions of the Canada Census and these surveys are consistently around 5%. The data are presented as the best available representative evidence on the job control, further education and job-related informal learning of all teachers in Canada (including elementary-secondary, post-secondary and other teachers) over the 1982–2016 period. Differences in rates and trends cited in the text are all significant at the 95% level of statistical confidence.

We know of no other data sources that provide trend evidence for teachers on measures of job control as well as further education and informal job-related learning over this period of time in any other country. The questions were identical on all surveys.

The questions on job control were:

Job autonomy: How often is it possible for you to plan or design your own work? Would you say all the time, most of the time, about half the time, some of the time, or never?

Organisational decision-making: Think of policy-making at your main workplace; that is, making decisions about such things as the types of products or services delivered, employee hiring and firing, budgets, workload and change in procedure. Do you participate in making these kinds of decisions, or even provide advice about them?

The questions on continuing learning (not asked in 1982) were:

Further education: At any time during the past year did you receive ANY FORMAL training or education including courses, private lessons, correspondence courses (written or electronic), workshops, apprenticeship training, arts, crafts, recreation courses or any other training or education no matter how long or short?

Job-related informal learning: Have you done any informal learning related to your paid employment to keep up with new general knowledge in your occupation during the last year?

Large national surveys of elementary-secondary teachers in Canada, as well as related case studies, were conducted in 1998 and 2003 with the assistance of the Canadian Teachers' Federation and all provincial federations (see Smaller et al., 2005); comparable findings from these surveys will be reported where relevant.

All findings refer to teachers at all levels of schooling unless otherwise noted.