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Can They Teach Each Other? : The Restructuring of Higher Education and the Rise of Undergraduate Student “Teachers” in Ontario

JENNIFER MASSEY
QUEEN'S UNIVERSITY

Sean Field
Queen's University

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Cover Page Footnote

An earlier version of this paper was presented at the Geographies of Education Conference at Loughborough University in September 2012. The authors wish to thank those in attendance for their thoughtful feedback.

Can They Teach Each Other?: The Restructuring of Higher Education and the Rise of Undergraduate Student “Teachers” in Ontario

Jennifer Massey, Queen's University
Sean Field, Queen's University

Abstract

Changes to public funding regimes, coupled with transformations in how universities are managed and measured have altered the methods for educating undergraduate students. The growing reliance on teaching fellows, teaching assistants, and increasingly undergraduate peer educators (administering Supplemental Instruction [SI] programs) is promoted as a means to achieve a greater “return on investment” in the delivery of postsecondary education. Neoliberal discourses legitimating this downloading of teaching labour suggest it offers a “win-win” solution to the “problem” of educating growing numbers of undergraduate students. It proposes universities can deliver the same curricula, and achieve the same “outcomes” (primarily measured through grades and retention) for a substantially lower investment. Taking a political economy approach to examining transformations in Canadian postsecondary education, this article has three objectives. First, it traces the emergence and development of the discourses supporting the restructuring of teaching. Second, it unpacks these discourses and situates them within the context of successive reductions of public funding in postsecondary education. Third, it explores the expansion of SI as a microcosm of the broader complex shifts in the organization, management, and search for “efficiencies” in higher education, and challenges uncritical policy supporting the outcomes of SI.

Keywords

labour, political economy, restructuring higher education, supplemental instruction, teaching

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Preparing people to lead extraordinary lives

The last twenty years in Ontario have been witness to sweeping changes in how postsecondary curricula are formulated, funded, and delivered (Fisher et al., 2009). Beginning in the early 1990s, there were fundamental shifts in the management of postsecondary institutions as successive governments slashed operating grants and demanded universities adopt market policies to realize “efficiencies” (Fisher et al., 2009; Axelrod et al., 2011). In response to new government requirements, administrators began borrowing managerial practices from the private sector. The adoption of a cost accounting style of management was an essential piece of this shift. It provided a methodology and “economic rationale” for the reforms demanded by government and market advocates (Marginson & Considine, 2000). Since then, postsecondary institutions in Ontario have experienced successive rounds of budget cuts, program closures, and financial reforms. With fewer places left to cut funding and no new operating grants, the privatization of campus services, pension reforms, increases in student enrolment, larger class sizes, and the downloading of work onto lower paid employees have been some of the key ways administrators have found additional “savings” (Pitman, 2007).

Critical research into the neoliberal restructuring in education, particularly how it is impacting the work of student affairs in higher education, is urgently needed. These reforms are occurring where education, labour, and economic geographies intersect; and thus, an interdisciplinary approach drawing upon critical education, geography, and sociological literature is necessary. The reorganization of universities in Ontario in accordance with the finite mathematics of cost accounting management is part of the cultural, spatial, and economic reorganization of Canadian society under neoliberalism. This article makes an important contribution to this discussion by situating these reforms within the larger neoliberal project

that has been underway since the 1970s. We begin this endeavor by briefly tracing the historical relationship between the provincial political economy and the formulation (and reformation) of Ontario’s postsecondary education system in the latter twentieth century and early 2000s. Then, we present recent data on the impact of recent reforms. The remainder of the paper critically examines the emergence of Supplemental Instruction (SI) within the context of neoliberalism in Ontario, and examines the results of an SI pilot program at one mid-sized, research-intensive university in Ontario. We conclude this work by arguing that the use of unpaid or low-paid undergraduate workers as a substitute for faculty, teaching assistants, and teaching fellows is one manifestation of these neoliberal reforms. While previous research suggests SI programming can be beneficial; the explosion of SI programming must be viewed in the institutional context of the wider political economy of labour.

From “Fiercely Autonomous” to “Common Sense”

The postsecondary system in Ontario has changed dramatically since its inception. At the end of the Second World War, there were six universities in Ontario, all private and “fiercely autonomous” (Monahan, 1998, p. 347). By 2013, the number of publically funded universities in Ontario had grown to 23. The rationale for university sector expansion during the post-war period was that increasing the number of university graduates was important to provincial and national social and economic development. Universities were to respond to growing demand for skilled graduates and federal, and provincial governments agreed to fund the cost (Monahan, 1998). An equally important objective was cultivating and preserving institutional autonomy and academic freedom (Newson, 1998). The struggle to maintain autonomy was manifest in institutional insistence at maintaining an arm’s length relationship between postsec-

ondary institutions and government, and led to the institutionalization of collegial self-governance within Ontario universities (Newson, 1998).

As the Keynesian welfare state began to crumble in the 1970s, governments became wary of the rising cost of postsecondary education as inflation rose and Western economies experienced a series of economic shocks (Fisher et al., 2009). Falling government tax revenue, rising unemployment, and media accounts of campus “radicalism” aided in the deterioration of government and public support for funding postsecondary education (Monahan, 1998). By the late 1970s, the term “efficiency” had entered the lexicon of bureaucrats and university administrators, and universities experienced their first wave of reduced public funding (Monahan, 1998). Initially, reductions in funding were legitimated as short term, and institutions devised strategies to persevere and maintain institutional integrity until funding levels were restored (Newson, 1998). Annual increases in funding continued to decline throughout the 1980s, while capital grants were frozen and undergraduate enrollments rose (Monahan, 1998). By the early 1990s, the economy plunged into another recession, and provincial and federal governments called on universities to “trim the fat” (Newson, 1998). Public discourses asserted universities were backward and insufficiently managed (Newson, 1998), thus justifying the need to impose financial discipline, and laying the foundation for later governance reform (Newson, 1998).

The most dramatic cut to university sector funding in Ontario came in 1997 under Premier Mike Harris’ “Common Sense Revolution” (Monahan, 1998). The revolution promised to reform government through a series of measures designed to cut government expenditures and reduce taxes (Jones, 2004; Young, 2002; Winfield, 2012). Under the revolution, public services and

government were to be reformed through the application of “common sense” neoliberal principles of the market: for example, competition, to make government more “efficient”. Tom Long, chair of the 1995 and 1999 Ontario Progressive Conservative campaigns, described his party as “the people who came here to fix government” (Ibbitson, 1999, as cited in Winfield, 2012, p. 92). The campaign had broad public appeal; it implicitly asserted that government and public services were backward and in need of reform, and that laissez-faire market principles of governance were the way to impose common sense on government.

The reform of postsecondary education was guided by an ideological shift from public to user-based private funding (Jones, 2004). The 1996-1997 academic year, saw the provincial government cut operating grants to Ontario universities by 15%, while allowing tuition increases, particularly in professional programs (Jones, 2004). Moreover, greater competition was encouraged between universities at all levels. Student assistance funds from the provincial government were linked to private sector donations (Jones, 2004; Young 2002; OCUFA, 2006), and the introduction of key performance indicators of institutional “competitiveness” helped justify rewarding provincial funding based on institutional “performance” (Young, 2002; Jones, 2004). Discourses supporting these radical changes to Ontario’s postsecondary education system were normalized by the backdrop of rapid globalisation and restructuring processes occurring in several Commonwealth countries, and by similar initiatives occurring in their respective education sectors (Jones, 2004; Dominelli & Hoogvelt, 1996; Slaughter & Leslie, 1999; OCUFA, 2006).

By imposing efficiency and competition through policy and legislation, the Harris government effectively seized what little arm’s-length autonomy remained between the provincial government and universities,

giving the government greater control over curricula, institutional planning, and staffing. In neoclassical economics, efficiency is associated with the maximization of revenue at the lowest relative cost. In this orthodox interpretation, value is placed on efficiency, because efficiency helps firms survive in a competitive *laissez-faire* market. This interpretation, a keystone of neoliberal doctrine, endorses the “survival of the fittest” value construct where the “unfit” do not deserve to survive (Schoenberger, 1998). In the university sector, broad-based funding cuts and internal competition for operating funds legitimated the strategic defunding of programs, increasing faculty workloads, and downloading work onto lower paid employee groups (Dominelli & Hoogvelt, 1996).

With this provincial framework in place, accounting as a method of governance was used to entrench these values. As a method of governance (rather than a tool), accounting became more than an approach to record keeping, tracking, and transparency. It emerged as an active value-laden construct for organizing and evaluating people and their activities (McCoy, 1998; Hopwood, 1990). This method of governance is highly exclusionary. Only a relatively small group of people are involved in making decisions based on the numbers. Key to the success of this approach is its ostentatious apolitical veneer and reliance on purported benign “economic logic”. This discourse is one of the most powerful aspects supporting governance reforms, and changes the *modus operandi* of universities in favour of a pseudo-profit motive, whereby public institutions only invest in areas that have a high capital return and relatively low costs. McCoy (1998) argues this process has effectively constrained the decision making of college deans and department chairs to a narrow set of monetary measures, making invisible nearly all other decision making factors, including those central to universities’ stated missions.

Can They Teach Themselves?

These reforms have had a profound impact on students, staff, and faculty at universities across Ontario. Efficiency gains in undergraduate curricula delivery have culminated in increased faculty workloads, the downloading of work onto more vulnerable employees, and cheaper forms of education delivery. In a 2012 survey conducted by the Ontario Confederation of University Faculty Associations (OCUFA), 63% ($n=2,082$) reported that class sizes in Ontario universities have increased over the last five years. By contrast, 42% ($n=2,085$) indicated the overall quality of undergraduate education in Ontario had declined over this same time period (OCUFA, 2012). Moreover, 42% ($n=2,082$) of respondents indicated that they do not have the necessary resources to provide a high-quality education to their students, and 73% ($n=2,118$) reported faculty workloads have increased over the last 5 years—likely due to rising university enrollment, and few faculty hires (OCUFA, 2012). Harvey Weingarten, President and CEO of the Higher Education Quality Council of Ontario (HEQCO), an arm’s-length evaluation and reporting agency of the government, agrees with the OCUFA findings. In a speech delivered at the C.D. Howe Institute (a right-of-centre Canadian think tank, based in Toronto) in 2011, Weingarten remarked:

Given the central importance of higher education to the future of a country and its citizens, it would be particularly troubling to conclude that the quality of what goes on in our universities is diminishing. Yet this seems to be exactly the case...our students are less satisfied and less engaged with their university experience and their professors than counterparts in the USA... [and] university presidents, individuals who normally have only good things to say about their institutions, are publicly acknowledging the erosion of quality. (Weingarten 2011, speech delivered at

the C.D. Howe Institute, October 18th 2011.)

While increasing the workloads of teaching staff and a greater reliance on short-term contracts that have little (if any) job security or benefits, have been the mainstay of efficiency gains (OCUFA, 2012), the opportunity to exploit these “efficiencies” has been exhausted. With fewer places to download work and extract resources, there has been notable emphasis on the expansion of undergraduate student “teachers,” under the guise of SI. The establishment of Supported Learning Group (SLG) programs, a form of SI, at universities across Canada has been fuelled by findings suggesting that students who participate in SLGs experience greater academic success than students who do not participate (McInnis, 2001; Tinto, 2002; Yorke & Thomas, 2003; Peat, Dalzeil, & Grant, 2001). SLG sessions typically use upper-year undergraduate students, who had previously achieved a grade of 80% or higher in the course, to lead course-specific study sessions in typically large introductory classes where the rate of failure and D grades are high (Blanc et al., 1983). These programs, often run by the division of student affairs, have great benefits to students when they are offered as supplementary. However, the neoliberal push to replace faculty-led instruction with upper-year undergraduate student should be resisted by chief student affairs officers as it fundamentally undermines the academic mission of the university.

SI and the Institutional Political Economy of Labour Under Neoliberalism

Since their introduction, the number of SI programs on campuses across North America and beyond has grown substantially. It is estimated that over 500 colleges and universities in the United States, as well as a growing number of postsecondary institutions in Canada, the United Kingdom,

Australia, and elsewhere, have adopted SI programs (Blanc & Martin, 1994). In Ontario, SI is now commonplace at most universities.

The recent impetus for the expansion of SI programs across and within institutions has diverged from its original intent. It has crept from its original role as supplemental to faculty-led classes, and increasingly functions as a replacement of faculty-led teaching. As budgets are squeezed and first-year class sizes increase, SI has become an important component of the delivery of undergraduate education. The advancement of SI has been supported and advanced by non-critical assessment and evaluation (see Duah, Cost, & Inglis, 2014; Rath et al., 2012; Malm, Bryngfors, & Morner, 2012). In his evaluation of the “long-term impact” of SI, Ramirez (1997, p. 3) notes an “era of fiscal constraints” was partially the impetus for the prioritization of a successful SI program. Similarly, in their assessment of an SI program associated with an economics course, Lovisceck and Cloutier (1997) argued, “since the SI program is staffed largely by undergraduate students, it may be a cost-effective option that smaller undergraduate institutions may want to consider” (emphasis added, p. 75). More recently, Price, Lumpkin, Seemann and Bell (2012) noted “academic institutions concerned about attrition and students’ preparedness to transition to college must find ways to help students under tight budget constraints” (p. 22). SI is consistently promoted as a low-cost “solution” to educating increasing numbers of undergraduate students, due to its dependence on lower paid (or unpaid) undergraduate student SI leaders (Kochenour et al., 1997; Malm, 2012). Perhaps Heym (2014) put this most succinctly when she explained the rationale for introducing SI into her first-year biology class at the University of Kentucky: “unfortunately, due to budget constraints, the size and lecture format of Biology 151 cannot be changed; therefore, in preparation for a shift

in the population of students enrolled in Biology 151, an SI program was initiated.” It is critical for divisions of student affairs to resist this trend and uphold the academic mission of the university.

In Ontario, there are three primary models for compensating SI leaders. Some institutions offer a lump sum student stipend of around \$500 per semester of service; others pay students an hourly wage (which falls at or around minimum wage). Increasingly, however, universities, such as Queen’s University, are providing a non-monetary zero weighted course credit for 10 hours of labour per week. As the average teaching assistant in Ontario earns between \$4,000 and \$5,000 per semester, this form of SI funding can be seen, as an attempt to undercut the funding that would otherwise flow to more qualified and better trained graduate students. Furthermore, while earning “credit” as students, it precludes their ability to organize as a labour union.

The allure of SI’s purported cost-effectiveness for postsecondary institutions is obvious amid successive waves of funding cutbacks that have occurred over the past 30+ years.

Systemic underfunding and increased economic scrutiny (i.e. regulatory coercion) by federal and provincial authorities have left Ontario universities with little choice but to cut funding for basic institutional and academic resources, such as maintenance and teaching staff, for several consecutive years (Monahan, 1998; Newson, 1998; Slaughter & Leslie, 1999; Jones, 2004; Young, 2002). At some universities, entire departments have been abolished due to fiscal constraints; at the University of Guelph (the university that has spearheaded SI in Ontario), for example, the entire Women’s Studies program was abolished in 2009 to save an estimated \$73,000 per year (Porter, 2009; MacLean’s, 2009). These cutbacks have encouraged the establishment and implementation of

SI programs in Ontario. These internal and pan-institutional changes to the postsecondary institutions are part and parcel of the same provincial and institutional managerial strategy from which budgetary and cash decisions emanate (as evidenced by their inclusion in institutional and provincial budgetary processes, i.e., how programs get funding). In this context, SI programs (and SLG programs in particular) are a source of inexpensive labour, the usage of which has increased while other forms of university labour (maintenance and teaching staff for example) have suffered from successive waves of funding cuts. These accumulated systemic changes to funding and management of publically funded postsecondary institutions have necessarily meant that institutional administrators have had to fill systemic funding shortfalls by demanding: (a) more money from private donors (private donations), (b) more tuition from current students, and (c) more return-on-capital from university workers (i.e., workload: compensation). A wave of campus-unionization initiatives has emerged alongside these cuts in recent years (Tamburri, 2008; Schliesmann, 2009; Bain, 2014; Bansagi, 2014). Further institutional and pan-institutional research is needed to parse out the degree to which less expensive forms of labour have emerged to directly fill the gap left by institutional funding cuts.

For students, SI programs may be an opportunity (for both leaders and participants) to build skills and enrich their academic experience. However, the use of SI as a cost-effective substitute for instruction and guidance by professors and trained university professionals, rather than as a supplement to these resources, is a disturbing trend that risks undermining SI’s stated objectives of enhancing students’ knowledge retention and academic performance.

Moreover, while several studies have shown SI programs to have a positive impact on student performance, many studies

suffer from one or more serious empirical problems. The first of these weaknesses is self-selection bias, which arises when researchers try to distinguish the impact of SI participation from the student’s underlying ability and motivation for academic performance. In the SI literature, several authors have attempted to control for self-selection bias through various means. Loviscek and Cloutier (1997), for example, use a Heckman two-stage regression model for estimating the influence of SI participation on a student’s academic performance (1997). Other authors, by contrast, have opted to use ANCOVAs (Fayowski & MacMillan, 2008; Miles et al., 2010; Kochenour et al., 1997), which compare the outcomes of two or more groups while taking into account the influence of one or more covariates. While the development of more sophisticated statistical techniques to control for the impact of self-selection bias continues, attention to its resultant impact remain mixed. Thus, research into the “outcomes” of SI may overstate its purported benefits (see, for example, Ogden et al., 2003; Rath et al., 2007; Mahdi, 2004). Furthermore, many studies use data aggregated across several courses and over several years that not only conceal the effectiveness of SI over time and by course, but also the impact of individual SI attendance over several courses over time.

The second issue associated with pro-SI research is the lack of attention to institutional and program diversity. The results presented by Etter et al., (2000), for example, reveal differences in SI participation rates, and outcomes vary between public and private as well as large and small postsecondary institutions. While only descriptive, these data suggest the impact of SI varies between institutions and programs. This is not a new observation. Previous authors have raised questions about how systematic differences in program specification, administration, and participant composition have affected SI outcomes (Burmeister et al.,

1996). Yet, no known studies in Canada or elsewhere have systematically reviewed how program and student diversity may affect successful SI implementation and participant success.

Case Study: A Critical Assessment of Supplemental Instruction

Research Site

In this study, we sought to address some of these issues and engage in a critical assessment of one type of SI—SLGs at Queen’s University. Queen’s University is a research-intensive, mid-sized postsecondary institution located halfway between Toronto and Montréal in Kingston, Ontario. Established in 1841, Queen’s is one of the oldest postsecondary institutions in Canada, and offers a wide range of professional, undergraduate, and graduate programs in the areas of engineering, science, the arts, the social sciences, medicine, business, law, and education.

Methodology

Over the past seven years, the Division of Student Affairs at Queen’s has expanded its range of supplemental academic support services, including the expansion of online resources, resources offered through the Learning Commons, and the introduction of SLGs. Queen’s University initially piloted its SLG program during the 2008-2009 academic year in Biology 102 and Biology 103. The pilot was subsequently extended to include Psychology 100 in 2009-2010. In this study, we examined the grades and completion rates of students registered in Biology 102 and Biology 103 and Psychology 100 in 2009-2010 and compared those who participated in SLGs and those who did not. Table 1 describes the participants. The evaluation of the pilot project was guided by five key research questions (Massey et al., 2012, p. 10):

1. What factors influence students' likelihood of participating in SLG sessions?
2. To what extent does student participation in SLGs lead to increased academic success in a course?
3. To what extent does student participation in the SLGs increase course material retention?
4. To what extent does student participation in the SLGs increase engagement with the course material?
5. To what extent does student participation in the SLG sessions enhance study skills?

SLGs are student-led study groups where students meet to study and practice skills and concepts introduced in class for the purpose of greater understanding and retention. SLGs are based on an SI model of instruction developed at the University of Missouri-Kansas City, beginning in 1973 (Fayowski & MacMillan, 2008; Ramirez, 1997). SLG sessions at Queen's were held in student residences. Research has shown that students living in residence have greater critical thinking skills than first-year students living off-campus (Kuh, et al., 1994; Pascarella, Bahr, Nora, Zusman, Inman, & Desler, 1993) and it has been found to be an ideal environment for developing and conducting small group work (Tinto, 2002; Yorke & Thomas, 2003).

Data Analysis

Data were analyzed using Stata and SPSS. Linear regression was used to estimate the impact of covariates on SLG participation. Regression models utilized propensity score matched (PSM) treatment and control group members to attempt to isolate the impact that participation in SLG sessions had on a student's final grades, study skill development, and academic engagement. In postsecondary education research involving program and course-based interventions, PSM is used to identify the impact of participation while controlling for factors

that influence self-selection into these same programs (Conway, 2010; Padgett, Salisbury, An, & Pascarella, 2010).

Covariates for these analyses were chosen based on available institutional data. The more covariates used in a regression model (or incorporated into PSM) the greater the potential to isolate and measure treatment effects. Researchers try to control for a range of demographic and other characteristics in the regression and PSM analyses, while recognizing that these variables are surrogates for more complex attitudinal and behavior factors.

In the testing phase of the analysis, some initial covariates were dropped due to a lack of observations and collinearity with other covariates. The covariates used in the regression analyses include gender, entrance grade average, full-time/part-time student status, year of study, identifying as an international student, and SLG attendance both in the targeted course and in other courses also offering SLGs (i.e., attending, or having attended, SLG sessions in Psychology 100 or Biology 102 at Queen's University). Table 2 reports the results of these linear regression analyses. The Psychology 100 and Biology 102 models were found to have r^2 and the Institutional Political Economy Of Labour Under Neoliberalism statistics of 0.302 and 0.356, suggesting these models accounted for approximately one-third of the variance in SLG participation. The Biology 103 model, by contrast, had an r^2 statistic of 0.059. These statistics indicate that controlling for these variables in the PSM analysis would significantly, although not entirely, account for the self-selection bias when comparing participants and nonparticipants.

Variance inflation factor (VIF) scores were generated for all covariates included in the models in order to detect and estimate the influence of multicollinearity, which can skew the model results (see, for example, Greene, 2008; Tabachnick & Fidell, 2007).

While several acceptable VIF limits have been proposed by previous authors (see O’Brien, 2007), a limit of four was adopted for the purposes of this report. This suggests that at the limit, the standard error associated with a particular covariate would be double what it would otherwise be if it were completely orthogonal (Greene, 2008; O’Brien, 2007; Tabachnick & Fidell, 2007). No VIF scores were found to exceed 2.01, and most were below 1.33, meaning the standard errors for these covariates were higher than they would have been if the covariates were completely orthogonal, but well within conservative VIF limits.

Results and Discussion

Our findings on the pilot-SLG program at Queen’s University, Ontario, challenges the efficacy of SI. Using quantitative data compiled from student surveys, student records, and SLG attendance files collected during the 2009-2010 academic year, we found the impact of SI on grades and retention mixed. Comparing SLG attendance frequency with students’ average university entrance grades and their average final grades, we found that no specific observable patterns emerge; see Table 3. Table 4 describes course completion rates.

When we compared the proportion of participants and nonparticipants who earned grades below 50% (an F grade), we found few differences between the comparison groups. Table 5 summarizes the results of the PSM analyses comparing the final grades of SLG participations and non-SLG participants. The PSM results summarized in Table 5 indicate that the impact of SLG attendance and students’ final grades at Queen’s is mixed. Whilst the relatively low number of statistical observations (students) in the treatment group(s) weakened the results of some PSM analyses (see Table 5 footnote), no clear pattern emerges from the results of PSM analyses with a sufficient number of observations either. The PSM re-

sults comparing students who attended (a) at least 4.5 hours and (b) at-least-6-hours of SLG sessions with students who attended no SLGs sessions, for example, indicate that SLG participants (on average) did not receive higher final grades than non-SLG participants.

Although SI programs can be an important addition to traditional academic resources, the expectation that SI can be applied with uniform results is unrealistic, and may be partially attributed to meta-analytical approaches that conceal institutional differences, as well as early empirical work that lacked attention to problems associated with self-selection bias. Heightened expectations for SI are also likely attributable to the financial motivations of postsecondary institutions seeking cost-effective means of boosting student performance by exploiting the volunteerism of students. As a substitute for traditional resources, such as lectures and seminars, now under pressure from rising enrolment numbers and declining per capita funding, SI is likely to erode the quality of education. While they are promoted as an inexpensive substitute for declining faculty and TA contact hours, they are exploitative of the students that they undercompensate and are a further example of the downloading of work in pursuit of institutional cost savings and efficiency.

Evidence of plans to extend, broaden, and normalize this model is deeply alarming. For example, at Queen’s University, Ontario, the principal’s most recent vision document, “The Third Juncture,” outlines his ideas and direction for the future of the learning experience at a university that brands itself as a “teaching-focused, research-intensive university.” He noted:

- The rather discrete and firm boundaries that exist now between undergraduates at various stages, graduates, postdoctoral fellows, and faculty, are also going to have to become more

permeable, at least so far as pedagogy is concerned. Medical schools figured this out decades ago in using upper-year clerks to teach their juniors, interns to help teach upper years, and so on, all in the reasonable belief that something one can explain to others is something one will oneself better understand. I believe that this proven model should be applicable, with suitable modifications, to the humanities, physical and social sciences. (Woolf, 2012)

In his remarks, not only does the principal accept without critique or question the “win-win” neoliberal philosophy underpinning his proposed solution to the challenges in funding the delivery of education, which he outlined earlier in the paper, he also rebukes arts and science disciplines for not figuring this out sooner.

Conclusion: Labour Geographies of Higher Education

While postsecondary institutions have received much attention from critical scholars, relatively little work has focused on how these institutions are changing and the resultant consequences for faculty, staff, and students (Waters, 2006). The restructuring of education requires urgent attention from critical scholarship, which has played a key role in dissecting processes, ideas, and discourses related to globalization, neoliberalism, regional economic development, governance, and social change. Yet, this rich body of work has remained relatively silent on critically dissecting how these processes, ideas, and discourses have impacted the institutions where we work and the resultant impact on those around us—especially those workers who are most vulnerable.

The shifts in the role of SI from “supplemental” towards “instructional” in approach is one facet of the broader shifts emerging in the restructuring of universities in North

America. The lack of critical research questioning the win-win philosophy underpinning this approach is leading to radical changes to how undergraduate education is thought about and delivered. Critical scholars of various stripes are poised to make an important contribution to this area of research by mapping the shift in funding and power on and between campuses, and by making clear the consequences of neoliberal forms of governance on the production of knowledge, socio-spatial change, and social reproduction in general.

Understandably, conducting research where education, labour, economic and other geographies intersect is fraught with challenges. Systemic departmental underfunding has sparked debates over the need for curricula reform and deepened divisions between faculty over teaching pedagogy, while scarce research dollars have encouraged intradepartmental competition and bitter divides between various research agendas. We contend, however, that this area of research need not be divisive. Although research agendas may differ, there is likely commonality in the challenges faced by faculty, staff, and students in academic departments at postsecondary institutions in Ontario and, indeed, elsewhere. Additionally, critical scholars are poised to re-imagine alternatives. We have not only challenged social, economic, political, and heteronormative and gendered hegemonic ideologies and discourses, we have played a key role in outlining paths of resistance and offered anti-capitalist alternatives (Gibson-Graham, 2006; 2008).

While critical scholars are well equipped to expose the contradictions, conflicts, and inequities associated with neoliberal governance structures, instituting effective change is more difficult and will likely require a higher level of critical community and regional activism. Thus, effective resistance will likely require building internal solidarities in the face of pressure to frac-

ture and compete, as well as require reaching outside departments to share ideas and work with those outside of academic circles. Champions of neoliberalism have been successful, in part, because they redefined public discourse in terms of a narrow ideology that produced predictable solutions (at least in Ontario). If critical scholars and others are going to be successful at enacting change, they will also have to redefine public discourse in terms of what is possible and what we aspire to achieve as individuals and communities. Critical scholarship within higher education and student affairs must contribute to this discussion.

The neoliberal reforms of the Harris government that remain intact today shook the university sector's financial stability and stripped what remained of institutions' managerial autonomy. The legacy of these reforms has been a policy environment and managerial system with entrenched neoliberal values, beholden to the private sector donors, and under the perennial threat of funding cuts. These reforms encouraged an environment of competition within and between institutions that privileges cost cutting and revenue generation, while demanding higher results from its traditional functions of teaching and research. The increasing disparity between the demand for results and the resources needed to meet these demands could not be sustained. The use of unpaid or low-paid undergraduate workers as a substitute for highly trained faculty, teaching assistants, and teaching fellows is one manifestation of these neoliberal reforms as universities cut costs while trying to boost their indicators of success. It is critical for divisions of student affairs to work with faculty counterparts and resist the trend to dilute the academic mission of the university.

TABLE 1: Descriptive Statistics *Source: Massey, J., Field, S., & Burrow, J. (2011).*

	Psychology 100		All Students Biology 102		Biology 103		Psychology 100		SLG Participants Biology 102		Biology 103	
	Count	%	Count	%	Count		Count	%	Count	%	Count	
Gender												
Women	1,364	72%	684	65%	625	66%	98	78%	69	75%	53	84%
Men	521	28%	367	35%	326	34%	27	22%	23	25%	10	16%
Year of Study												
1st Year 2nd	1,538	82%	948	90%	906	95%	123	98%	91	99%	60	95%
Year 3rd	185	10%	48	5%	25	3%	1	1%	1	1%	2	3%
Year 4th	101	5%	27	3%	14	2%	1	1%	0	0%	1	2%
Year	61	3%	28	3%	6	1%	0	0%	0	0%	0	0%
Faculty												
Arts & Science	1,733	92%	1,013	96%	939	99%	119	95%	90	97%	60	95%
Business	43	2%	8	1%	4	0%	4	3%	2	3%	1	2%
Engineering	27	1%	29	3%	7	1%	2	2%	0	0%	0	0%
Nursing	82	4%	1	0%	1	0%	0	0%	0	0%	2	3%
International												
Yes	57	3%	27	3%	19	2%	3	2%	2	3%	1	2%
No	1,828	97%	1,024	97%	932	98%	122	98%	90	97%	62	98%
Registration												
Full-time	1,734	92%	1,013	96%	932	98%	124	99%	89	96%	62	98%
Part-time	151	8%	38	4%	19	2%	1	1%	3	4%	1	2%

TABLE 2: Linear Regression Results for SLG Attendance *Source: Massey, J., Field, S., & Burrow, J. (2011).*

	Psychology SLG			Biology 102 SLG			Biology 103 SLG		
	Coeff.	Std. Err.	t	Coeff.	Std. Err.	t	Coeff.	Std. Err.	t
Gender (Men = 1)	-0.075	0.045	1.660 *	-0.016	0.048	0.330	0.172	0.041	4.180 ***
Entrance Average	0.001	0.005	0.190	0.007	0.004	1.650 *	0.000	0.007	0.020
Full/Part Time (Full = 1)	0.033	0.048	0.700	-0.056	0.127	0.440	0.196	0.277	0.710
Year of Study	-0.047	0.014	3.460 ***	-0.041	0.014	2.920 ***	0.026	0.028	0.930
International Std (Yes = 1)	-0.097	0.058	1.670 *	-0.032	0.075	0.430	0.156	0.076	2.050 **
Psychology SLG Attendance				0.416	0.062	6.700 ***	0.127	0.062	2.030 **
Biology 102 SLG Attendance	1.030	0.225	4.570 ***				0.008	0.065	0.120
Constant	0.082	0.432	0.190	0.359554	0.3699445	-0.97	0.404	0.623	0.650
No. Observations	1710			995			877		
F	11.670 (6, 1703)			12.450 (6, 948)			3.490 (7, 869)		
Prob > F	0.000			0.000			0.001		
R Sqrd	0.302			0.356			0.059		
Root MSE	0.911			0.679			0.736		

Statistical significance denoted at 10% (*), 5% (**) and 1% (***)

TABLE 3: Comparison of SLG Attendance, Average Final Grades, and Average Entrance Grades. *Source: Massey, J., Field, S., & Burrow, J. (2011).*

Number of Sessions Attended	Time in Session (Hours)	Psychology 100				Biology 102				Biology 103			
		Entrance Avg.		Avg. Final Grade		Entrance Avg.		Avg. Final Grade		Entrance Avg.		Avg. Final Grade	
		Grade	No. Students	Grades	No. Students	Grades	No. Students	Grades	No. Students	Grades	No. Students	Grades	No. Students
0	0	87.79	1592	71.8	1441	89.04	873	72.39	887	89.32	816	75.01	836
1	1.5	87.88	59	74.51	61	91.27	41	76.69	45	90.33	24	77.38	24
2	3	88.48	22	74.22	23	91.21	18	79.74	23	89.49	17	72.41	17
3	4.5	89.19	9	70.5	8	89.29	10	75.9	10	87.43	10	73.2	10
4	6	90.58	6	74.17	6	84.85	2	67.5	2	90.9	5	69.4	5
5	7.5	88.03	6	76.5	6	88.25	4	85.5	4	86.8	2	64	2
6	9	88.95	4	83	4	90.07	3	74.75	4	n/a	0	76	1
7	10.5	89.63	3	81	4	n/a	0	n/a	0	88.5	1	71	1
8	12	86.57	3	74	3	89.33	3	78	3	n/a	0	n/a	0
9	13.5	86.3	1	60	1	94.5	1	83	1	91.9	2	78.5	2
more than 9	>15	89.68	4	82.25	4	n/a	0	n/a	0	n/a	0	n/a	0

TABLE 4: Trends in Course Completion Rates *Source: Massey, J., Field, S., & Burrow, J. (2011).*

Course	Term	Status	2006		2007		2008		2009	
			No.	%	No.	%	No.	%	No.	%
Biology 102	Fall	Overall Course Average		76.6		73.9		72.6		72.9
		Completed	880	91.2	883	94.9	977	94.2	981	93.3
		Dropped With Penalty	8	0.8	16	1.7	19	1.8	6	0.6
		Dropped Without Penalty	77	8.0	31	3.3	41	4.0	64	6.1
Biology 103	Winter	Overall Course Average		79.0		75.0		73.4		75.0
		Completed	741	88.5	750	87.6	885	92.6	898	94.4
		Dropped With Penalty	12	1.4	13	1.5	12	1.3	13	1.4
		Dropped Without Penalty	84	10.0	93	10.9	59	6.2	40	4.2
Psychology 100	Fall & Winter	Overall Course Average		72.1		72.9		71.5		72.1
		Completed	1,248	81.6	1,378	83.7	1,522	82.8	1,563	82.8
		Dropped With Penalty	89	5.8	122	7.4	147	8.0	138	7.3
		Dropped Without Penalty	192	12.6	146	8.9	169	9.2	187	9.9

Table 5: PSM Results for Impact of SLG Attendance on Final Grades *Source: Massey, J., Field, S., & Burrow, J. (2011).*

SLG Session Attendance	Hours	Course	Participants	Non-Participants	Final Grade ATT	Std. Err.	t	
Attended One Session	1.5 Hours	Psychology 100	57	331	1.360	2.243	0.606	
		Biology 102	41	147	1.700	1.953	0.871	
		Biology 103	23	69	-	-	-	
Attended Two Sessions	3 Hours	Psychology 100	21	157	3.432	3.425	1.002	
		Biology 102	17	82	7.274	2.597	2.801	***
		Biology 103	16	64	-	-	-	1
Attended Three Sessions	4.5 Hours	Psychology 100	7	40	-	-	-	1
		Biology 102	9	36	-	-	-	1
		Biology 103	10	18	-5.460	2.739	-1.993	*
Attended Four Sessions	6 Hours	Psychology 100	5	65	-	-	-	1
		Biology 102	2	4	-4.333	5.406	-0.802	
		Biology 103	4	20	-	-	-	1
Attended At Least One Session	1.5 Hours +	Psychology 100	114	499	3.130	1.799	1.740	*
		Biology 102	81	214	4.032	1.572	2.564	**
		Biology 103	58	178	-1.953	1.415	-1.380	
Attended At Least Two Sessions	3 Hours +	Psychology 100	57	298	2.517	2.458	1.024	
		Biology 102	41	133	4.640	2.213	2.097	**
		Biology 103	36	112	-2.993	1.684	-1.777	*
Attended At Least Three Sessions	4.5 Hours +	Psychology 100	35	222	3.855	3.067	1.257	
		Biology 102	23	54	3.668	3.553	1.032	
		Biology 103	20	50	-4.342	2.215	-1.960	*
Attended At Least Four Sessions	6 Hours +	Psychology 100	28	184	3.393	3.319	1.022	
		Biology 102	13	15	0.846	4.87	0.174	
		Biology 103	10	33	-4.253	3.217	-1.322	
Attended At Least Five Sessions	7.5 Hours +	Psychology 100	22	113	2.422	3.661	0.662	
		Biology 102	11	11	2.767	5.301	0.522	
		Biology 103	3	13	-3.850	5.859	-0.657	

Statistical significance denoted at 10% (*), 5% (**), and 1% (***). The probit model from which the propensity scores were calculated was found to be statistically insignificant, likely due to the relatively low number of observations. These results were therefore omitted.

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