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Accounting and incentives for sustainability in higher education: an interdisciplinary analysis of a needed revolution

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Abstract

Purpose – *The purpose of this interdisciplinary paper is to explore the constraining role of accounting in the higher education pursuit of sustainability goals and to provide recommendations to transform accounting in ways that create incentives for sustainability and a dialogic reporting culture in higher education accounting.*

Design/methodology/approach – *Critical social theory and “strong” sustainability provide the theoretical framework for this interdisciplinary analysis. A literature review and collection of anecdotal evidence supports conceptual development of accounting technologies that provide incentives for sustainability practices in higher education.*

Findings – *Conventional accounting practices are founded on positivism, managerialism, and neo-classical economics, creating a psychic prison for the accounting discipline that fails to recognize the socially constructed nature of accounting reports and their explicit valuation role. University rewards structures, reporting mechanisms, and curricular foci dictate against the transformation of accounting technologies toward sustainability. Other anecdotes illustrate how accounting processes hinder sustainability initiatives in higher education.*

Research limitations/implications – *The paper recommends five changes that could be made to existing accounting reports for higher education institutions. It also proposes the adoption of both narrative reporting and a dialogic model of sustainability reporting and expansive learning in higher education organizations that would provide a transitional process for change.*

Originality/value – *Little literature has addressed the role of accounting in sustainability practices. This paper offers a sociological analysis of the assumptions built into the accounting profession and a reconceptualization of accounting practices that could be pioneered on the campuses of higher education institutions.*

Keywords *Social and environmental responsibility, Accounting, Higher education, Critical sociology, Sustainability, University administration and management, Global citizenship*

Paper type *Conceptual paper*

1. Introduction

Universities, colleges, technical institutes and other institutions of higher education have a pivotal role to play in what Edwards (2005) calls the sustainability revolution. In this article, we engage in an interdisciplinary analysis, addressing a significant barrier to the practice of sustainability in higher education – accounting practices. Specifically, the sociological role of accounting and how it conditions organizational behavior, creating powerful blockages to sustainability practices in higher education, is explored.

In this paper, we first identify a significant absence in the literature connecting accounting processes to sustainability initiatives as well as the slow uptake of sustainability reporting among higher education institutions. Second, from a critical accounting perspective, we describe the challenges of the assumptions embedded in “strong” sustainability discourse that are counter-hegemonic for accounting professionals. Third, using five case studies, we illuminate how current accounting practices and university reward structures deter initiatives

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to build sustainability practices. Fourth, we explore possibilities for representing environmental, social and economic costs in financial reports and propose three alternatives to enhance democratic processes and organizational learning for sustainability. Throughout, we argue that achieving sustainability within higher education institutions will, by necessity, require a significant transformation in accounting practices to tell a financial story that appropriately reflects sustainability principles and practices. This shift in financial storytelling, to accommodate a strong sustainability values framework, requires a significant transformation of conventional accounting practices toward organizational dialogical democracy, which ought to be pioneered on higher education campuses.

2. Conceptual approach

“Weak” sustainability remains rooted in modernist beliefs of unlimited growth, technological solutions, centralized expert-driven solutions, and the rational, economic “man” (Orr, 1992; Spretnak, 1999). “Strong” sustainability, on which this article is based, challenges these assumptions and requires interdisciplinary thinking to integrate insights and orientations across the disciplines in pursuit of new ways of organizing human activities that are sustainable.

David Orr (1992) argues that within sustainability thinking, there are two poles in a rather wide and diverse ideological spectrum. He identifies these poles as sustainable development and sustainability, with key differences in assumptions and outcomes. The differences between sustainable development and sustainability are now called the debate between weak and strong sustainability. Weak sustainability argues for more rapid growth in developing countries that can address poverty, except that they should “green” their growth. It also argues that the solution lies in technology fixes, market solutions and human management of the natural environment. It argues for centralized decisions by policymakers, scientists and corporate executives using a rational and managerial process, which then trickles down to citizens. This approach is dominated by the concept of the fundamentally self-interested “economic human” which maximizes gain and minimizes loss using Cartesian logic. Thus, technological or weak sustainability stays rooted in the modernist paradigm, following core Enlightenment assumptions.

Strong sustainability however, is predicated on what Charlene Spretnak (1999) calls a “reconstructive or ecological postmodernism,” building on the more positive advances of the modern tradition, but rooted in an Earth-based epistemology, cosmology and ontology. Strong sustainability argues that unlimited growth in a finite natural system is impossible and that there are limits to the human capacity to comprehend and coordinate at the global scale. Rather than growth, it advocates for a rethinking of all human activities – agriculture, shelter, energy use, urban design, transportation, resource use, and economics, including accounting. It also argues that we cannot reliably determine the carrying capacity of the Earth to understand ecological limits on human activity and therefore should use the principle of precaution. This principle also advocates for coherence between human and ecological systems within bioregions, through practices such as technological biomimicry. Strong sustainability also argues that decision-making needs to be decentralized to the regional level and that communities need to shed political systems that bred passivity. Education is a key to social change by developing an ecologically competent citizenry using traditional place-based knowledge. It also advocates for a stewardship model, ecocentrist ethics, and living systems thinking based on the new science. In sum, humans need to exhibit humility and seek more harmony between knowledge, livelihood, living patterns, and place.

The following interdisciplinary analysis integrates insights across the fields of sustainability, accounting, adult and higher education, and sociology. Each discipline has its own story-telling mechanisms and dominant lines of narrative. As well, within many organizations, there are significant gaps or multiple narratives yielding an often contradictory organizational reality. Specifically drawing from critical social theory, manifested in critical accounting and critical pedagogy, this article provides the beginnings of conceptual development for transforming accounting processes that will mitigate deterrence and foster the adoption of sustainable decision-making framework in higher education.

3. Higher education and sustainability reporting

Since the UNESCO launch of the 2005-2014 Decade of Education for Sustainable Development, universities, colleges and other higher education institutions are under pressure to adopt a sustainability vision within their curriculum, administration, management, and operations. With great flourish, the early 1990s saw many postsecondary organizations sign political declarations pledging support for sustainability practices. Yet, while sustainability visions and goals are vital, they can be meaningless unless the operating, accountability, and reporting systems can animate that vision (Blackburn, 2007).

Sustainability reporting has been taken up largely by the private sector, which chooses to voluntarily disclose their triple-bottom line or their environmental, economic and social performance. The most common reporting norm is the Global Reporting Initiative (GRI) guidelines created in 1997. Sustainability reporting is now the norm in the top 250 global corporations (KPMG, 2008; cited in Fonseca *et al.*, 2011). Public sector organizations, however, have been very slow to adopt such reporting standards, prompting a 2005 adaptation more relevant to institutions with a *raison d'être* of the public welfare. To date, sustainability reporting by educational organizations only constitutes 0.75 percent of all global reporting output (Fonseca *et al.*, 2011). As many theorists agree, sustainability ought to be a reframing of thinking habits and a reconfiguring of how we undertake all of our human activities (Orr, 1992; Korten, 2006). Thus, the role of educational institutions is vital to creating the social and cultural conditions for sustainability. Further, higher education institutions are often equivalent to the operations of a small municipality, thus new configurations based on sustainability could be modeled on campuses.

As reported in this journal, many institutions have undertaken multiple initiatives toward becoming sustainable institutions through a variety of initiatives – changes to academic programs, research programs, student activities, operations, and community outreach (Blackburn, 2007). However, one continuing conundrum is how to accurately report the outcomes of these initiatives. In Canada, Fonseca *et al.* (2011) report that several reporting systems are in common use – the College Sustainability Report Card, the Campus Sustainability Assessment Framework (CSAF), the GRI-G3 guidelines, and the Sustainability Tracking, Assessment, and Rating System (STARS). Yet, less than 30 percent of the largest 25 universities, which together represent 50 percent of Canada's postsecondary students, regularly participate in voluntary reporting. Additional findings revealed that the status of being a university signatory to a sustainability declaration, ostensibly denoting a commitment to sustainability by university leaders, did not actually increase sustainability performance. Despite issues with reporting mechanisms, what is significant to note is the near complete silence regarding traditional accounting and the role it plays in this reporting process.

In a non-comprehensive review of key sustainability handbooks as well as key higher education journals, there is a paucity of literature that addresses the crucial role that conventional financial accounting practices play in either encouraging or deterring movement toward sustainability practices. For example, in the authoritative 800 page *Sustainability Handbook: The Complete Management Guide to Achieving Social, Economic and Environmental Responsibility* (Blackburn, 2007), there is only one page addressing accountant's standards (p. 361). In the 400 page *An Introduction to Sustainable Development* by Rogers *et al.* (2008), there is one small paragraph on green accounting that discretely calls for a modification of conventional accounting (p. 301). Since the inception of the *International Journal of Sustainability in Higher Education* in 2000, there have been only two articles that address accounting processes or the training of accountants. Yet, environmental accounting texts and articles note that the sustainability movement has created significant pressure on accountants to redesign accounting processes to better represent interests and values historically marginalized by the interests of finance capital (Brown, 2009; Schaltegger and Burritt, 2000). While some alternative processes have been advanced, there has been no significant uptake by the private, public, or third sector organizations.

It is curious that non-financial reporting has been created to reflect sustainability policy and practices rather than modifying conventional accounting reporting. Theorists such as Dumay *et al.* (2010) and Brown and Fraser (2006) claim that this is due to the use of sustainability reporting for agendas other than improving sustainability performance. They suggest that sustainability reporting often serves the goals of enhancing public image, heading off NGO campaigns through the public relations exercise of optimistic selective reporting, avoiding mandatory regulation, and increasing profitability. Sustainability reports do not have full legitimacy yet and do entail a level of risk, explaining the lack of third-party assessors engaged in these assessments (Edwards, 2005). Grey (2006) suggests two additional key reasons – that, first, modern international finance capitalism is designed, through its inherent logic, for environmental exploitation, erosion of social justice, and the promotion of a consumer economy, and second, the valuations that are part of sustainability considerations are broader and less measurable, creating challenges of factoring in what have been considered physical and social “externalities”. This leads to a brief discussion of the socio-economic assumptions built into conventional accounting processes.

4. Socio-economic assumptions in accounting

While the dominant paradigm of accounting portrays itself as a “technical” process that utilizes a neutral framework of economic reason with which to provide an impartial view of organizational performance, accounting is actually a socially negotiated process of meaning-making and value judgments that developed over the centuries in association with finance capitalism (Brown, 2009). Historically, fundamental economic shifts have indeed necessitated changes in financial reporting through an ongoing process of challenging economic assumptions and revisiting value judgments (Watanabe, 2007).

The goal of the accounting statement is to hold parties accountable within a series of agency relationships, such as stockholders-boards, boards-executives, and executives-managers. The primary financial report is a balance sheet used to show what assets management has acquired with money from stock holders and debtors, and thus it portrays the organizational stewardship of the resources provided, usually in the year just elapsed. It is based on a basic formula that the assets of any organization must be offset by a similar amount of liabilities and equity provided by stakeholders.

From a critical perspective, Brown (2009) asserts that accountants do not merely “convey” information, rather, their “representations (re)construct social worlds,” as it is “one of the societal practices through which individual and group subjectivities are shaped and a means by which power is exercised” (p. 314). Conventional accounting is founded on technocratic decision-making tools such as cost-benefit analyses rooted in positivism, managerialism, and neo-classical economics (Brown, 2009). The result, as Max Weber (1930) described, are modern technicians who use cost-benefit instrumental rationality, reducing people, beings and things to resources or instruments, thereby avoiding key ethical questions. Weber termed this the iron cage of rationalization, which traps individuals behind the bars of efficiency, rational calculation and the disciplinary control of bureaucratic organizations. Conventional accounting processes based on such instrumental rationality exclude multiple perspectives of stakeholders and the public, the visibility of social and environmental realities that fall outside accepted parameters, as well as other epistemic systems and forms of social life.

While accounting is rarely considered to hold revolutionary potential (Elkington in Schaltegger and Burritt, 2000), it is far more malleable, ambiguous, and subjective than commonly acknowledged. The accounting debacles in recent years clearly unveiled this reality. In sum, accounting has become depoliticized, assuming an impartiality that ignores its own partiality (Brown, 2009). However, Power (1992) suggests that environmental accounting provides “a vacant space of possibility” where normative principles, processes of valuations, and the plurality of social and environmental interests are surfaced and discussed, acknowledging “the political” in accounting.

Sustainability reports are responses to a deeply understood need for a more meaningful definition of profitability and accountability. Yet, initiating new practices are difficult within a context that is:

Still largely grounded in a thoroughly egocentric paradigm based on the maximization of self-interest inherited from the Scientific Revolution and The Enlightenment. It is this egocentrism, we submit, and not anthropocentrism *per se* ([...] society, maximizing social good and minimizing social evil) that represents the primary barrier to ecological sanity (Gladwin *et al.*, 1996, p. 912).

Thus, we are faced with a significant degree of cognitive dissonance between sustainability values and financial reports that still exclude significant ecological and social costs. Pittman and Wilhelm (2007) note that “financial accounting has long been the dominant, if not the only, tool for analyzing institutional efficiency and administration policy effectiveness” (p. 56). They argue that sustainability initiatives will continue to flounder until those policies are framed in economic terms that will facilitate measurement and, ultimately, integration into financial reports. Current market pricing mechanisms of supply and demand associated with competitive markets typically do not take into account “public goods”; hence the problem is, how do you record something that is free?

Hardin (1968) summed up the valuation problem in his essay “Tragedy of the commons.” Each shepherd using a common pasture has an individual incentive to increase his herd, calculating the full benefits of each animal. Yet, the full cost of the stress that each additional animal places on the “commons” is not calculated, because the commons is “free” and environmental costs divided among all users. Aggregate costs are not factored into individual decisions. Tragedy occurs when the ecological health of the commons collapses and no longer sustains even minimal economic activity. This provides insight into why we collectively tolerate environmental degradation and explains the dynamics that led to the collapse of the Canadian Atlantic Cod Fishery in the 1990s and the growing tragedy of extensive use of antibiotics among ranchers yielding bacterial infections now resistant to all known antibiotics. As with the shepherds, the ranchers gain extensive personal benefits but so far have not experienced the full cost of untreatable infections. Importantly, reporting processes have not been created that bring the cost of “public goods” into private financial reporting practices, that could avoid these tragedies.

One approach, environmental accounting, seeks to convert all social and environmental goods into numerical valuation, simply changing cost-benefit relations (Schaltegger and Burritt, 2000). Yet, this continues to enact a monetary reductionism, devaluing non-economic values and non-tradeable goods, ignoring power relations, assuming a determinacy within financial reports that is non-existent, and veiling the contestable nature of any accounting calculations. As Gareth Morgan (1997) asserts, the accounting profession is facing a psychic prison:

Human beings have a knack for getting trapped in webs of their own creation [...] psychic prisons [...] are ultimately created and sustained by conscious and unconscious processes [...] people can actually become imprisoned in or confined by the images, ideas, thoughts, and actions which these processes give rise [...] while organizations may be socially constructed realities, these constructions are often attributed an existence and power of their own that allow them to exercise a measure of control over their creators (p. 215).

5. Accounting barriers to sustainability in higher education

When Al Gore received the Nobel Peace Prize in 2007, he emphasized the role of university research and activism (Byrne and Monastersky, 2007). The proximity of researchers and young people seeking to understand the world creates opportunity for intense policy and ethics discussion. Given these expectations, campus communities are exposed to higher levels of scrutiny and expectation by the public. The following five case studies highlight the range of barriers accounting has created in relation to sustainability initiatives, sustaining the inherent logic of finance capitalism.

The first case study in higher education is described by Pedelty (2008). Academic travel, usually attendance at conferences and international exchanges, are viewed as a necessary activity to building an academic career, with merit increases tied to such activities. However, travel is also a significant source of greenhouse gas emissions. Pedelty (2008) describes a group of medical researchers, so accustomed to travel as a career necessity and as a perk, that discussions about alternatives completely broke down. Such a dialogue challenges ingrained ideas about academic roles and reward frameworks. In this case, new kinds of merit incentives were required to encourage electronic attendance at conferences and new kinds of accounting practices were needed to record the gas emissions from air travel.

In a second case study, Carlson (2007) describes the lack of mechanisms to account for the gains associated with the installation of a wind turbine. When the wind turbine broke at Carleton College in Minnesota, the repair costs and lost revenue had devastating budget implications. Using conventional thinking, the university accountants did not record the carbon savings as an economic asset that could offset the repair costs (Carlson, 2007). Not only did accountants not record carbon off-setting but they did not account for the increased student enrollment that resulted from such a visible display of sustainability commitment, enhancing Carleton College's student attractiveness. As Carlson describes, the accountants focused on the cost of the repair, which compelled administrators to institute program cutbacks, and created a longstanding stigma regarding sustainability and further similar investments on that campus.

In a third case study, one of the authors was studying the impacts of educational engagement on the conservation behaviors of staff, faculty and students in one university building. Lange asked physical plant and operations staff to break out the energy consumption rates for a specific building, as a way to track improvement over time, in relation to an ongoing educational campaign. However, the university had no accounting mechanism for this level of disaggregation by individual building. Therefore, this case study could only rely on the self-reporting of behavior change by faculty, staff and students, which could not be corroborated by statistical data. This not only reduced the hard data available to verify impact of educational interventions, it negated further incentives for faculty, staff, and students to continue behavior change if there was no evidence of progress. In another aspect of this study, facilities management made the decision to install LED lighting throughout the building. However, this was represented as increased maintenance costs rather than utility savings. Thus, the energy savings reported in university communications were hypothetical rather than actual, as they could not be recorded. Facilities management recorded the savings for sustainability reporting by extrapolating from manufacturer's assessments.

A fourth case study (Carlson, 2008) relates to LEED® certification (Leadership in Energy and Design Program) where new buildings or renovated buildings are built according to five environmental criteria: sustainable site; water efficiency, energy and atmosphere; materials and resources; and indoor environmental quality. The purpose of seeing LEED certification is to portray that, overall, the environmental impact has been minimized throughout the building lifecycle. According to Carlson (2008), this certification typically attracts financial support to institutions. However, as many universities have found, the costs of achieving certification to obtain LEED certification is often prohibitive. As well, the accounting disclosure for this building project often shows a building with a higher cost per unit size, because carbon offsets and future energy savings have not been accounted for.

In a fifth case study, Hermes (2008) reports an example of an administrator who converted reporting and payments to an online process, creating significant savings in terms of paper and related costs such as printing. However, no benefit from those savings was attributed to the administrator. The savings were not left with the department for other uses and any reinvestment of savings toward sustainability initiatives was not communicated back to the manager. Further, the manager was "rewarded" with a smaller budget to reflect the lower expenditures. Again, not only was the manager not rewarded for a significant undertaking to implement sustainability in daily practices, the manager was penalized with a smaller budget.

These case studies provide some evidence for the obstacles that conventional accounting practices pose for the achievement of a sustainability agenda. In sum, after years of sustainability policy-building at the University of British Columbia, Walker (2008) concluded that the budget and financial reporting policies of the university were substantial obstacles to implementing sustainability practices. Thus, university organizations require a transformation of budgeting and accounting procedures to better represent a new reality that considers environmental, social as well as economic impacts.

6. Creating incentives for sustainability through accounting

We see five easier opportunities for postsecondary institutions to account for initiatives related to sustainability, which set a foundation for a broader culture shift. More important, however, is engaging university communities in learning and dialogue around accounting procedures and processes of valuation, which would not only transform accounting procedures, but would enact dialogical processes to challenge existing relations of power in universities that uphold frameworks of thinking that condition the acceptability of unsustainable practices. We offer numerous suggestions for initiating campus learning and dialogues.

One opportunity is when costly investments into sustainable infrastructure are pursued, these investments should be classified as assets, through accounting reforms. Cost reductions can be captured in the accounting representations and made available and attributable to managers. This effectively represents the economic gains accruing from such initiatives as well as would build in incentives for recognition for managers willing to transform practices.

A second opportunity for universities and colleges is to demonstrate environmental accounting by disclosing related assets and liabilities on their balance sheets now. While carbon credit reporting is only an interim solution to the need for significant energy conservation and not a long term solution, universities can lead the way in collecting and disclosing carbon emissions that may be equivalent to future lease and debt payment disclosures. Such proactive accounting policy will enhance the institution's ability to see tangible benefits from sustainable investments, rather than these investments and later maintenance being recorded as liabilities only. As the regulatory cost of non-green expenditures increases, such as carbon taxes, those institutions will eventually experience a positive effect on their financial reports, but the immediate task is to set in place the mechanisms for reporting the impact on initiatives on carbon emissions.

A third opportunity is to capture the external cost data of irresponsible actions that result in environmental degradation or responsible actions that avert environmental degradation. Universities and colleges could lead the way by involving themselves in internal regulation setting, with policies related to waste diversion, new practices such as LED lighting, or building according to LEED principles. Reporting would necessarily need to illustrate both the environmental gains from such practices as well as the benefits of integrated sustainability and accounting reporting. While regulation is not yet established by many governments, once public regulation is instituted, the costs of responsible actions will decline with wider implementation, facilitating further adoption of sustainability practices. Until then, universities can challenge profitability as resource maximization and model optimization of university resources instead (Birkin *et al.*, 2005).

The fourth opportunity for higher education organizations is to widen the exposure of undergraduate students to accounting education as a component of any liberal arts curriculum. As undergraduates come to learn how the valuation process operates and how costs are expressed, the public underwriting of environmental degradation will become intolerable. Accounting education should be less focused on professional licensure and more an interdisciplinary vehicle for discourse about the socially constructed nature and ethical implications of accounting report.

The fifth opportunity is to shift the reward structures for academics, such as merit rewards and promotions structures. The kind of research that is recognized and rewarded, the kind of

research dissemination that is recognized, and offering ways to convey how teaching relates to sustainability are all possibilities that could begin to shift practices that run counter to a sustainability framework. For instance, research that challenges accounting conventions could be requested and rewarded as a way to facilitate ideas for proactive changes to accounting processes.

Accountants and administrators facilitating these five changes can be integral to a culture shift that values and rewards investments in sustainable infrastructure and system innovations. However, at a more fundamental level, three additional alternatives could transform accountability mechanisms on campuses.

Three other alternatives are open to accountants, particularly in academe, willing to challenge eco-modernist orthodoxy with counter narratives and mechanisms. The first is the move toward narrative reporting to accompany financial reports. Narrative reporting that accompanies financial accounting is more appropriate to describing the important social and environmental goods, rather than reducing these to numeric values.

The second alternative is the move to dialogic accounting, where accounting becomes a dialogical interaction among all actors in a higher education institution. Brown (2009) suggests the merger of Sustainability Assessment Models (SAMs) and Soderbaum's (2006) democratization approach to accounting. Various groups within an organization or institution would do their own SAMs that can then foster democratically based comparative discussions and which could inform decision-making among all university stakeholders. This enables full cost accounting but also provides an interpretive and ideological open approach to accounting statements, thereby increasing the democratic processes within an institution. Such a dialogue would recognize the positionality of claims by different stakeholders in the organization and provide a reflexive opportunity for faculty, staff and students to weigh values and assumptions. Thus the participatory process of accountants working with organizations to produce reporting becomes as important as the accounting products themselves (Bebbington and Gray, 2001).

The third alternative is a continuous learning process that fosters expansive learning among all higher education employees, in relation to social and environmental sustainability. From complexity science and studies of adaptive, self-organizing systems, learning is the expansion of the organizational capacity for critically questioning the meaning of standard practices. In sustainability, learning is learning into something that is not fully known. This learning must necessarily involve entire activity systems to produce culturally new patterns of activity (Engeström, 2001), achieved through the emergence of improvisational actions (Fenwick, 2007). If a space for collective learning is provided by the organization, then the risks entailed in the transformation of processes are collectively shared, experimentation is encouraged through a more decentralized organization, and contradictions and constraints within and across professional responsibilities are deliberately identified and negotiated, particularly with frequent opportunities for informal interactions in the course of daily work (Fenwick, 2007).

7. Conclusion

This paper has explored the role of accounting as society's financial language and the current barriers that accounting processes create for the uptake of sustainability practices in higher education. The language of accounting is based on a psychological contract that establishes what is valued and therefore what it counts when telling an economic story. Societal pressures are now building for a transformation in basic accounting assumptions and practices, with a special obligation for institutions of higher education to acknowledge the powerful influences that accounting reports have over the societal understanding of financial reality. Higher education organizations can model how accounting can be transformed to better reflect innovations for social and environmental responsibility.

Professional accountants and higher education administrators face the moral hazard of considering their daily efforts too small to matter. Yet, this indulgence does not reflect the cumulative effect of individuals, the power of organizational learning, and the pervasive role

accounting reports play in constructing social and financial reality. Each accountant, accounting researcher, and accounting educator must work practically to integrate values of responsible global citizenship into the financial pictures of organizations. This paper has recommended five opportunities for changing existing accounting reports for higher education institutions. It also proposes the three alternatives of: adopting narrative reporting alongside financial reporting, the adoption of a dialogic model of sustainability reporting; and expansive organizational learning processes that can provide a lower-risk transitional process for change.

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