

Sustainability in Management Education: Contributions from Critical Reflection and Transformative Learning

Claudine Brunnquell and Janette Brunstein

Abstract

This theoretical paper discusses how the assumptions of critical reflection (CR) and transforming learning (TL) can help develop reflexive professionals in sustainability within management. The central argument is that a purely pragmatic and technical conception in the teaching and learning of sustainability does not sufficiently contribute to the development of professional managers with strong sustainability principles and standards. Therefore, it is important to employ CR and TL because they provide elements that contribute to advancement from the current teaching and learning approach, an approach based on problem solving, to another approach based on problem-posing. The reflections presented in this paper may provide elements that can help teachers, educators, university deans, and coordinators of management courses to rethink the way in which business schools, which are often the drivers for professional managers in metropolitan areas, are addressing sustainability education.

Keywords: problem-solving; problem-posing; reflexive professional; sustainability; management education

Introduction

As early as the 1970s, national and international public policy documents showed some interest in issues related to sustainability education (Wright, 2004). However, not until the 1990s did a number of intergovernmental and nongovernmental organizations begin to disseminate statements in order to engage individuals, governments, and business organizations to act for the causes of sustainability. It was then that the theme gained more prominence and became incorporated and strengthened within academic institutions (Thomas, Kyle, & Alvarez, 1999).

Literature shows no consensus regarding the definition or meaning of education for sustainability (Kopnina & Meijers 2014; Zint 2011). It overlaps with other concepts, such as environmental education and education for sustainable development. Thus, the authors shall consider these concepts as synonymous within this article. A 2003 report published by the United Nations Educational, Scientific and Cultural Organization (UNESCO) viewed education for sustainable development as a learning process of how to make future-oriented decisions in the long term. Such an education helps people understand the world in which they live, as well as its complexity and interconnectedness of problems, by developing new knowledge and skills necessary for a sustainable future.

In recent decades, the literature has reported a significant number of educational experiences in sustainability (Kearins; Springett, 2003; Svoboda; Whalen, 2004; Annandale; Morrison-Sounders, 2004; Springett, 2005; Collins; Kearins, 2007; Wals, 2010; Wals e Blewitt, 2010;

Avarelo & Mitchell, 2017; Meghann et al., 2018). However, analysis shows that current education does not yet adequately respond (Huckle & Sterling, 2008; Jones, Selby, & Sterling, 2010; Leal Filho, 2009; Tilbury & Wortman, 2004). These researchers acknowledge that environmental education, as it has been presented, does not achieve the expected results, nor has it been able to meet the growing complexity of the contemporary crisis. For Sterling (1996, 2011), mainstream education is usually part of the problem because it encourages individualism, unsustainable lifestyles, and often egregious patterns of consumption, either directly or by default. Therefore, there is a call for a paradigmatic shift to respond more adequately to socio-environmental problems, including those faced by metropolitan areas.

In the field of management, researchers such as Kearins and Springett (2003), Svoboda and Whalen (2004), Annandale and Morrison-Sounders (2004), Springett (2005) and Collins and Kearins (2007) state that current management education fails to meet the challenges of sustainability, with some suggesting an overall conceptual change to administration (Banerjee, 2004; Springett, 2005). This idea requires a new look at organizational theories, management practices, and the role of the manager and the professionals working within companies. In addition to sustainability's many conceptual, institutional, and cultural challenges, Raufflet (2013) and others question, for example, the potential of the curriculum and current pedagogical practices in administration courses to promote critical reflexive capacity in the classroom (Alvesson & Willmott, 1999; Antonacopoulou, 2010) and to prompt students to think about sustainability from a more critical viewpoint (Bevan, 2014; Wankel & Stoner, 2009).

Thus, it is necessary to rethink education for sustainability within the context of management (Banerjee, 2004) in order to develop new knowledge, skills, and values in the discipline and to prepare competent citizens and workers who can contribute to sustainable metropolitan areas and to society in general. Within this model, it is essential to apply teaching and learning approaches that will produce business professionals not solely focused on how to increase production and sales, but also on strategies to rethink ways of doing business and relating to different stakeholders.

It is in this context that critical reflection (CR) and transformative learning (TL) might inform higher education's development of graduates who become reflexive professionals for sustainability within the corporate sector. However, the question remains: *How can the assumptions of critical reflection and transformative learning contribute to the development of reflexive professionals in sustainability within the management field?*

First, it is essential to review how the meaning of sustainability education in management is contextualized, highlighting challenges discussed in the literature. Next, the article presents the major concepts of critical reflection (CR) and transformative learning (TL) theories, which will serve as the basis for discussions about the development of reflexive professionals in sustainability. To answer the research problem, the third part will present the main assumptions of CR and TL, discussing how they can contribute to the teaching and learning of sustainability in management.

Regarding pedagogical challenges, this discussion can bring theoretical elements that contribute to advancing the debate about what it means to develop reflexive professionals in administration.

Additionally, this research serves as a model for researchers, teachers and coordinators interested in promoting a sustainable rationality in management courses utilized by business school graduates who are motivated and prepared to advance sustainability in metropolitan areas.

Education for Sustainability in the Management Field

The most common understanding of sustainability, within the context of organizations, John Elkington (1997) calls “the triple bottom line,” referring to a company that contributes to sustainable development while simultaneously generating economic, social, and environmental benefits. This concept’s validity could become more apparent if companies did not limit their understanding to a utilitarian and functionalist logic, which ends up impoverishing the potential of the triple bottom line. This limited understanding of companies has some implications for the practice of sustainability within organizations.

Most companies end up reducing the idea of sustainable development to the concept of sustainable growth, placing the term “sustainable” only as a quality or adjective of growth, without necessarily questioning the implications of this growth for society as a whole (Lélé, 1991). In addition, the principles of sustainable development under this perspective are understood from a pragmatic approach, focused exclusively on minimizing social and environmental impacts and on eco-efficient production (Springett, 2005, 2010), thus assuming a more reactive than proactive character.

Consequently, the assumption of sustainability manifests itself as a moral mandate, a legal requirement, or an inherent cost of business development, “a necessary evil to maintain legitimacy and the right of an enterprise to function” (Hart & Milstein, 2004). The idea of sustainability often translates as a technical and legal problem inherent to any business organization in the world rather than a political and ideological position for democracy and inclusion (Springett, 2010).

The same logic also guides management courses. Sustainability is already part of the curriculum, but is mostly understood and interpreted as a reaction to legal demands of the market, government, public policies, society, nongovernmental organizations, and other systems (Bevan, 2014). Yet, there is no change in the mainstream of management; it continues to reproduce a model and theories that contribute to the unsustainable stage of production and consumption in which humans currently live. Why does this still happen? Why is it so difficult to change the rationality of management education?

Many sustainability experts agree that business schools are institutions of power that have been built and marked by thinking that seeks to perpetuate a profit-at-any-cost mentality and which esteems the valorization of individual interests in detriment to the collective (Springett, 2005; Sidiropoulos, 2014). For this reason, there is an intrinsic difficulty when it comes to thinking about management education focused on sustainability because such a focus militates a new rationality in business school curricula, where values rest upon a logic that was not included in the teaching agenda until recent years. In the business world, a market that demands exclusively economic and financial results is so ingrained into the managerial mindset that near disbelief in other drivers generally diminishes any possibility of change within these courses.

In spite of the numerous efforts towards sustainability education (Galea, 2004, 2007; Kearins & Springett, 2003; Rauflet, 2013; Wankel & Stoner, 2009), several authors keep calling attention to the fact that education for sustainability in the area of management demands a paradigmatic change, which requires rethinking the role of companies in the world and forms of management (Bevan, 2014; Brunnquell, Brunstein, & Jaime, 2015; Springett, 2005). Changing paradigms in management means breaking with technical and pure functionalism, thus proposing a discussion of values for sustainability.

This paradigm shift goes far beyond considering or simply paying attention to the social and environmental aspects in professional practice; it requires putting these aspects in the same hierarchy of importance as financial goals (Springett, 2005; Tilbury & Wortman, 2004). It also involves changes to conception and behavior; for example:

- Questioning the coherence of companies' actions, and observing the contradictions between what they do and their discourse;
- Observing and encouraging consistency between the behavior professionals as workers and as individuals, so their own consumption practices at home and within their families is consistent with sustainable practices they enact at work;
- Expanding the role of the manager, which should not be solely and exclusively to maximize profits for shareholders;
- Problematizing the responsibility of management theories and how they have contributed negatively to the social, economic, and environmental relations of modern society; and
- Questioning the meaning of the existence of the organizations.

This is not an easy task; it involves dealing with conflicts, tensions, and paradoxes (Brookfield, Kalliath, & Laiken, 2006). It requires asking the manager to review the expansion of the business, to produce less, and/or to give up part of the profit in favor of socio-environmental objectives, all of which go against most priorities within business strategy. It is in this sense that the task of management education should not simply exist to alert students to problems within sustainability or just to instruct them with tools that aim only to minimize negative social and environmental impacts, instead of work on values and proactive change for the common good (Kuchinke, 2010). Instead, a paradigmatic shift toward personal values and institutional structures is necessary for an ecological and social responsibility mindset development in management education (Springett, 2005; Sterling, 2011; Sidiropoulos, 2014).

Courses in management education should act as spaces for reflection, leading students to question the current model of unsustainable management and to think about alternatives that are consistent with sustainability assumptions. It is in this context that researchers question the central assumptions of management theories and practices; doing so is considered fundamental in the process of paradigmatic change for sustainability (Bevan, 2014; Springett, 2005, 2010). Therefore, they consider the theories of critical reflection (CR) and transformative learning (TL) as key constructs supporting the move to a new paradigm in the teaching and learning of management.

The Meaning of Critical Reflection and Transformative Learning

Literature and studies (Schön, 1983; Antonacoupoulou, 2010; Woerkom, 2004) widely debate the importance of critical reflection for professional practice, and it can still be difficult to even locate a formal definition for the term (Kember, McKay, Sinclair, & Wong, 2008). Critical reflection often appears as synonymous with other expressions such as reflexive thinking, reflection and critical thinking. Therefore, it is necessary to understand what critical reflection means, and understand conceptual differences that appear in the literature.

Discussions about reflection as a formal process in education appear to have begun with John Dewey, who is credited with the origin of the concept of reflexive thinking (Kember et al., 2008; Mezirow, 1991; Schön, 1983). For Dewey (1933), reflexive thinking is a process of knowledge construction sustained by action and reflection. In this process, students build knowledge on reflection upon action, after this action has already taken place. Thus, each lived experience contributes to enriching the repertoire of experiences and previous knowledge that will serve as a basis for reflective thinking in future situations. Dewey (1933) emphasizes that reflection is not only a sequence of units defined and linked together but also a consequence, with the result of this connection a continuous movement in search of a common end. Reflective thinking is meant to arrive at an outcome, at a conclusion, suggesting the application of thought solves a problem.

Like Dewey (1933), Schön (1983) highlights reflection that occurs at the same time as the action (reflection in action). For Schön (1983), reflection in action challenges professionals to not only apply acquired knowledge and continue to follow established and known rules and processes, but also to respond to new problems that arise in the daily life of their professions. Such knowledge and techniques come from reflection in action, which mobilizes the individual to create new mental structures based on the evaluation of experiences previously lived.

Influenced by critical theorists such as Jurgen Habermas and Paulo Freire, Mezirow (1991) makes a counterpoint to the ideas of Dewey (1933) and Schön (1983), positing that when these authors are talking about reflection, they are not necessarily speaking of critical reflection. According to Mezirow (1991), Dewey deals with reflection in the context of problem-solving, putting the consequences of action before thinking, so that humans know what they are about to face when acting. Reflection then involves “a review of the way we consciously, consistently, and purposefully applied ideas in strategizing and implementing each phase of solving a problem” (Mezirow, 1991, p.101). This process follows a hypothetical-deductive model, which is part of instrumental learning: identification and formulation of the problem, the search for evidence, hypothesis development, hypothesis testing, and its reformulation based on the researcher’s feedback. Dewey understood this process as a critical investigation. However, Mezirow (1991) points out that, while Dewey's reflection ends in the formulation of an outcome as a form of conclusion, it only involves a review of the evidence supporting this conclusion (assertions taken for granted); therefore, it cannot be considered critical.

For Mezirow (1991), the problem of Dewey's conception is that he does not explicitly differentiate the function or nature of reflection. For this reason, Mezirow (1991) presents a distinction between the different roles of reflection: reflection on content, reflection on process, and reflection on premises. When faced with a situation, humans usually think about the content

of the problem (reflection on content) and the strategies and procedures to solve the issue (reflection on process). When the person questions the cause of the problem and why it exists, evaluating not only content and process but also norms, codes, common sense, ideologies, and paradigms that are taken for granted, he is reflecting on premises. The criticism of the premises is what Mezirow understood as problem-posing, and involves picking up a problematic situation considered as certain and raising questions about its validity (Mezirow, 1991, p. 105). Reflection on premises is that which Mezirow (1991) understands as critical reflection (CR).

Reflection refers to the act of intentionally evaluating the individual's action, whereas CR involves not only the nature and consequence of the action, but also includes the circumstances of its origin (Mezirow, 1995). The first is based on the solution of problems (problem-solving oriented), and the second on problematizing the origin of the problem (problem-posing oriented). Along the same lines, Brookfield (1987) explains that critical thinking refers to the questioning of assumptions previously held to be true about how the world works. Such inquiries prompt a thorough examination of what was previously unquestionable about ways of thinking and living.

In this way, they intend CR to focus on power relationship and hegemony. While these are inherent processes to any human being living in society, CR involves questioning the power relations that allow and/or promote a set of practices. This kind of reflection can prompt the realization that certain practices generally perceived as natural, common, and desirable are, in fact, constructed and reproduced by self-serving interest groups who hold the power to protect the status quo. Thus, CR focuses not only on “how to work more effectively or produce more” within an existing system, but also questions structures that support this system, evaluating morality and considering alternatives (Brookfield, 2010, 2012).

For Mezirow (1991), while thoughtful action or reflection is part of an instrumental learning, critical reflection opens the possibility of transforming our perspectives. For this reason, the concept of critical reflection is at the core of the theory of transformative learning.

Transformative learning can be defined as “learning that transforms problematic reference patterns to make them more inclusive, distinct, reflective, open, and emotionally capable of change” (Mezirow, 2010, 22). When people reinterpret an experience from a new set of perspectives, giving a new meaning to an old experience, observers can say that a transformation is taking place, or that learning is transformative.

Reflexive learning involves evaluation and reassessment of assumptions and becomes transformative whenever assumptions or premises are misleading and invalid. While instrumental learning (which does not involve critical reflection) refers to the process of assigning an old meaning to a new experience, transforming learning is the process of assigning a new meaning to an experience, new or old. In this sense, the fundamental dynamic of transformative learning is to make meaning, to create new meanings for an experience. This is only possible through critical reflection on premises (Mezirow, 1991).

Finally, it is important to point out the professor/educator role in transformative learning. According to Brookfield (1987), because critical thinking is a living activity, a process of thinking about new possibilities, others, such as faculty, can facilitate it. They can foster critical thinking in their students when they listen to students' stories and experiences with empathy, act

as interlocutors, or help students create connections between actions and seemingly dissimilar thoughts, help learners to reflect on the reasons for their actions and reactions. In this way they may encourage the students to identify the underlying assumptions of their choices, behaviors, and decisions. This in turn may help students to realize that while their actions are delineated by context, they can be altered in order to be more congruent with the desires—in short, faculty teach transformatively when they provide students with the opportunity and space for reflection and analysis. Critical thinking is not only an academic process that leads students to earn high grades, write good essays, and demonstrate hypotheses, but also a way of living that helps keep them safe when countless organizations (corporate, political, educational, and cultural) try to make them think in a way that serves only the organizations’ purposes and needs (Brookfield, 2012).

In the management context, the positioning of management to ensure ideological conformity without questioning the principles of the model of development is incongruous with the view of democracy and emancipation of critical educators (Banerjee, 2011). The Taylorist connotation, in which people are trained to manage others and achieve maximum productivity, does not match the social movement for democracy advocated by critical educators (Brookfield et al., 2006). Critical reflection within management education would require examining the inherent contradictions between capitalism (maximize profits as the prime objective) and democracy (emancipation and better lives for citizens), much of the study in this area tends to remain at other levels of reflection (Reynolds, 1998), not reaching critical reflection.

It is in this context that the theories of CR and TL impact studies related to education for sustainability in Management Education. The next section discusses how assumptions of these theories can contribute to the development of the reflexive professional in sustainability in the area of management.

Reflexive Professional Development for Sustainability in Management

This article proposes that utilizing CR and TL perspectives in management education for sustainability requires questioning both supposed “common sense” as well as dominant ideologies perceived as givens. For graduates entering work and community life in the metropolitan area, with its interconnected web of corporate, political, educational, and social concerns, there must exist a space in their educational plan for a review of management models and the development of new responses. Otherwise, the status quo will always remain.

What kinds of questions may arise to create disorienting dilemmas for management students that can trigger transformative realizations? Questions that can help students to make a qualitative leap, going beyond a purely pragmatic approach to sustainability education? The following examples have appeared in recent literature:

- The meaning of business success: What does success mean in the corporate world when considering assumptions about sustainability?
- How one evaluates the results of business actions: Do quantitative indicators account for measuring business success? What qualitative indicators are important to incorporate into sustainability goals and targets?

- The meaning of risk: What is the risk in the corporate universe? Economic risk only? What are other risks that management should consider, as well?
- Value creation: What nature of value are managers talking about and for whom? Economic value only?
- Nature of business impacts: What are the impacts for nature and for people? How is one's business operating, and is it benefiting or hurting others? Who is winning or losing with one's actions?
- Unidimensionality or multidimensionality of business objectives: Does the company have multiple objectives, or is profit the sole objective? What logic prevails?
- The reason for being a company: What is the purpose of the company? Why and for whom does it exist?
- Power relations: Who holds power to maintain the status quo? How do they attain and maintain the power? How do they persuade others to maintain their perspectives?

For Springett (2010, p. 80), “a critical perspective does not accept things at face value. Taken-for-granted beliefs are to be challenged: they are contingent, have been constructed and can change. Questions are asked about who ‘constructed’ things, how they are made, and why.” Based on this idea, it is essential to differentiate the concept of the professional in sustainability from the reflexive professional in sustainability. The latter refers to that individual who will not only solve problems (problem solving oriented), but who will also question the problem (problem-posing oriented). Figure 1 discusses the nature of such professionals.

Sustainability Professional	Reflexive Sustainability Professional
<p>➤ Sustainability is based on the following aspects (Springett, 2010, p. 83):</p> <ul style="list-style-type: none"> • Functional, mainstream positions; • Sustainable ‘growth’; • Triple Bottom line; • Eco-efficiency: political sustainability – business as usual and symbolic politics. <p>➤ Sustainability is seen by this professional as:</p> <ul style="list-style-type: none"> • An expense; • A legal requirement; • A moral obligation; • A way to maintain company’s image as a responsible organization. <p>➤ This professional usually:</p> <ul style="list-style-type: none"> • Is concerned about how sustainability can be a way to increase the value of the company; • Is responsible to prepare sustainability reports; • Only reproduces the capitalist paradigm of production and consumption. 	<p>➤ Sustainability is based on the following aspects (Springett, 2010, p. 83):</p> <ul style="list-style-type: none"> • Political, progressive positions; • Sustainable development; • The discourse of sustainable development and democracy/inclusivity; • Social and environment justice; • Political change. <p>➤ Sustainability is seen by this professional as:</p> <ul style="list-style-type: none"> • A new way to comprehend business organizations- companies have new roles in the society <p>➤ This professional usually:</p> <ul style="list-style-type: none"> • Questions the mainstream position of the management • Reflects upon the problem of the <i>raison d’être</i> of companies, not limiting themselves to problematizing some of their practices; • Review assumptions that reproduce an unsustainable management; • Creates new meanings for the management practices; • Reflects critically about their own worldview.
<p style="text-align: center;">Problem-Solving (Dewey, 1933) Reflection on content and process (Mezirow, 1991)</p>	<p style="text-align: center;">Problem-Posing Reflection on premises (Mezirow, 1991)</p>

Source: prepared by authors

Figure 1. The sustainability professional: non-reflexive and reflexive.

According to Springett (2010), management departments should design courses to help students become aware of business activities, governments, and institutions that have been harmful to the environment and people. Sustainability, in management and business organizations, should be examined through critical lenses, with the purpose of questioning the different discourses and relationships established between the company and its stakeholders. For Springett (2003), without the examination between discourses and business actions, there is a risk of continuing to reproduce an unsustainable model and reinforce the logic of weak sustainability, which seeks to maintain a functional position that is at the service of sustainable growth, not development. Management education should create paths to move to another logic, strong sustainability, which is political and progressive, aiming at development as a democratic force (Springett, 2003). The concept of strong sustainable development emerges from nature's treatment of social equity and eco-justice. It is less instrumental and more participatory, aiming to contribute to “quality of life,” which presupposes a change in the dominant social paradigm.

It is important to clarify that this discussion neither minimizes nor disregards the importance of the instrumental, technological, and philanthropic actions from the companies in the teaching-learning process of sustainability. The consideration of more technical and pragmatic issues of order are necessary, emphasizing that education for sustainability should not be reductive (Springett, 2010). To give an example, when analyzing experiences of management professors that included sustainability in their disciplines, Brunnquell, Brunstein, and Jaime (2015, p.339) identify experiences that demonstrate approximations with the principles of CR and TL. This applies to those professors who:

- Indicated the intention to surpass traditional views of the subject, replacing them with others;
- Rendered administrators responsible for their decisions and led them to consider indicators that surpass economic and financial analysis;
- Added discussions on ethics, transparency, communication with stakeholders, and social justice to the traditional objectives of their subjects;
- Placed the evolution of the administration science within a historical perspective, based on the good and the bad of what it has provided for society, discussing its implications for contemporary management;
- Demonstrated a concern towards reviewing the role of administrators and the practice of management itself;
- Placed students in a position to confront a management model that indicated signs of exhaustion and invited them to think about the need for a new model, one that would take into consideration elements which until recently had not been part of the administrative function.

The assumptions of critical reflection and transformative learning can contribute to the development of reflexive professionals in sustainability in the area of management (See Figure 2). This, in turn, can reinforce and impel the formation of a generation of management professionals that is more committed to the common good, and less focused on eminently individualistic interests.

Assumptions of Critical Reflection and Transformative Learning:	Contributions to the Formation of Reflexive Professionals in Sustainability:
<ul style="list-style-type: none"> • Encouraging students to break with existing standards and beliefs; • Presupposing a revision of students' assumptions, prejudices, and a questioning of our reason and practice; • Requiring a change in the way students interpret the world, searching for new meanings, new understandings, and new ways of living. 	<ul style="list-style-type: none"> • Overcoming the traditional management model, constructing new meanings for management practices; • Educating the professionals to perceive the contradictions (in practice and discourse) in which organizational actions are immersed, as well as observing and comparing different conducts of companies; • Putting sustainability as an essential value for the professional;

<ul style="list-style-type: none"> • Requiring engagement in collaborative and systemic actions; • Demanding a reflection on the students' ideas and beliefs, and the questioning of ways of seeing, of existing perspectives, of arguments and propositions, of common sense and dominant assumptions; • Involving criticism of the assumptions upon which our beliefs are built and foster changes in the pattern of referrals of individuals; • Implying an evaluation of what is being reflected, looking for similarities and differences between what is being experienced at a given time and previous learning; • Demanding a positive, productive, and active relationship between teachers and students, based on interaction and dialogue; • Developing students' essential skills, sensitivities, and understandings to become critical and active reflexive individuals. 	<ul style="list-style-type: none"> • Emancipating the individual, enhancing their role as change agent for sustainability; • Rethinking the role of organizations in society. Provoking deeper discussions of decision-making processes within management models utilizing practices that minimize sustainability-related problems; • Discussing the social role of companies and their business models, proposing new business models; • Educate skilled professionals in establishing relationships with peers from other areas of the organization, seeking to find solutions for sustainability problems; • Overcoming teaching in sustainability anchored in a technical, instrumental perspective only; • Working on the causes and consequences of unsustainability, enabling practitioners to understand and act on the political forces that nurture or impede the advancement of sustainability; • Helping professionals to position themselves politically, but, at the same time, to be able to produce sustainable projects; • Breaking with the students' apathy and helping students understand the organization not only as an economic force, but also a political one; and to develop its capacity for influence.
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Source: prepared by the authors

Figure 2. Synthesis of the Assumptions of Critical Reflection and Transformative Learning and its contributions.

Developing reflexive professionals able to question critically sustainability-related issues is a growing global imperative, especially in urban environments. According to the United Nation population projections, approximately 4.9 billion people will be living in cities by 2030 (UNDESA, 2006); with this increase in the number of people in cities, reflexive professionals advocating sustainability will be more important than ever to overcome sustainability challenges, launch innovations, and uncover opportunities. As stated by Allen, Gerwing and McBride (2009), there are compelling reasons for universities serving metropolitan areas to mobilize their research and educational programs around sustainability challenges and to engage in sustainability-related partnerships relevant to their respective communities.

In metropolitan environments, where most businesses operate on the standard model of enhancing shareholder value as the prime objective, CR- and TL-centered business school instructional practices can be a lever for helping move the metro area to more generalized standards and principles of serving the social good and the environment as a necessary part of reaching the bottom line.

Conclusion

The objective of this article was to discuss how critical reflection (CR) and transformative learning (TL) could contribute to the development of reflective professionals in sustainability within management education.

To answer this question, it is imperative that sustainability education requires a paradigm shift (Bevan, 2014; Springett, 2005, 2010) that is necessary in order to construct another rationality in the business world. This rationality demands a revision of standards that, until recently, were considered acceptable and with which people are familiar, such as unsustainable production and consumption modes and prioritization of economic objectives.

Responses that are merely technological or pragmatic are insufficient for the imposed challenge. Such responses are important, but they respond to specific and objective problems, usually those that stem from law or social pressure threatening the survival of businesses. In short, this kind of response from businesses and corporations does not contribute to moving towards more substantive changes.

If there are not more critical looks at sustainability in organizations, there will be no change in beliefs, assumptions, conceptions, and values, and the corporative behavior will continue to reproduce only an unsustainable model of organization, in search of solutions to problem-solving, without questioning the problem itself (problem-posing). In this sense, the assumptions of CR and TL are necessary considerations in sustainability education, because they will help management professionals think about why problems exist: How do organizations contribute to the standards of the unsustainable life? What does it mean to be a sustainable company? What kind of business is acceptable in a society that is socially and environmentally just? What should business be? (Springett, 2005), and so on.

This task is neither simple nor lacking in mistrust and paradoxes. The strength of the idea of sustainability seems incredible to many, and much disbelief exists that it is possible to operate in a more sustainable way, pursuing other objectives besides maximizing profit for shareholders.

Therefore, to materialize this change, it is fundamental to foster a deeper, substantive thinking in students in management education courses, asking them to face disorienting dilemmas and question their assumptions. This practice will allow the future professionals to become reflexive about the theme, and to see sustainability in business through other lenses while thinking about new management possibilities.

Ultimately, the contribution that universities serving metropolitan areas can make to the quality of life in their community rests largely on developing graduates, who as a matter of course, act

on the realizations about sustainability they learned as a result of critical reflection and transformative learning in their management courses.

The theoretical examination presented in this paper may contribute to future empirical studies in the form of action research, collaborative research, or other pedagogical/andragogical scholarship of both theory and practice. The main objective of such research should be to foster the development of teaching/learning strategies capable of promoting CR and TL for sustainability management education.

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Author Information

Claudine Brunnquell is a Doctoral Student from the Graduate Program in Business Administration at Presbyterian University Mackenzie. She has completed her Master's degree, studying issues related to sustainability education in business schools in Brazil. Her work is focused on teaching and learning process for sustainability, and development of reflexive professionals for sustainability in the academic context.

*Claudine Brunnquell
Department of Business Administration
Universidade Presbiteriana Mackenzie
Rua da Consolação, 930
São Paulo, SP - Brazil Zip Code: 01302-907
E-mail: claudine.brunnquell@gmail.com
Telephone: +55 11 998882959

Janette Brunstein is Professor and Researcher of Business Administration at Post-graduation Program in Business Administration from Presbyterian University Mackenzie. Her work focuses on education, learning, and development of competences for sustainability in both academic and organizational environments. During the last eight of her 10+ years in academe, she has coordinated projects within the national ambit, supported by organs in furtherance of the Brazilian Government's aim to insert the thematic of sustainability into business administration courses.

Janette Brunstein
Universidade Presbiteriana Mackenzie
Rua Aimberé, 1775 – apto 41
São Paulo – SP – Brazil. Zip Code: 01258-020
Email: janette@mackenzie.br
Telephone: 55 +11 995701140

* Corresponding author