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Abstract

The Problem

Sustainability is an important issue that presents challenges in three areas – HRD practice, HRD research, and in the teaching of HRD. There is a need to develop multidisciplinary understandings.

The Solution

Organizational and HRD practices emerge from different perspectives and positions. Taking the triple bottom line (TBL) as a starting point, this article develops a conceptual framework for thinking about and practicing HRD. Drawing on Habermas's knowledge interests this distinguishes three sustainability orientations: Compliance, Cooperation, and Co-existence. It argues for a critical focus and explores approaches to support deep learning and questioning, such as problem posing education, dissensus, collaborative learning, and problematization in research.

The Stakeholders

HRD scholars, researchers and practitioners. May also be of interest to others involved in environmental sustainability and critical management studies

Keywords: Sustainability, triple bottom line, green HRD, learning networks, wicked problems, critical HRD.

Introduction: conceptualizing the greening of HRD

There is a growing strand of literature expressing arguments for environmentally conscious practice as a moral imperative for HRD (eg. Hatcher 2002; McGuire, 2014). As Fenwick and Bierema (2008) argued that there is increasing interest in HRD in moving from a shareholder orientation focus on finance and performance, to a stakeholder orientation, which acknowledges the responsibility of the organization for people and environments affected by its actions. In this article I argue that greening HRD is not a simple matter of determining and operationalizing specific HRD interventions to support organizational sustainability. As Scully-Russ (2012) argued there are different values and frameworks in the definitions and practice of sustainability in HRD. I examine the role of organizations in environmental sustainability as a contested issue, in which varying organizational and HRD approaches emerge from different perspectives and positions. I argue that a reactive business as usual response is insufficient to address the challenges associated with global warming and environmental degradation. The complex challenges presented by sustainability require learning new things and learning in new ways, and approaches to organizational learning that are not currently mainstream in business and HRD practice. I examine the contribution of collaborative and networked learning, and the potential to generate new thinking through approaches such as problem posing and dissensus. HRD has been slow to grasp the sustainability mantle, but it is well placed to play a leading role in organizational sustainability practices. I build on understandings of HRD and sustainability (eg. Ardichvili, 2013; Scully-Russ, 2012, IN PRESS) and provide a conceptual framework for distinguishing alternative organizational orientations to sustainability. This highlights the competing discourses seeking to define sustainability, the need for interdisciplinary perspectives, and the operational implications for HRD practice, teaching and research.

I draw on literature from HRD, critical management studies, business ethics, and organization and environment studies. I first explore the contested nature of sustainability, then go on to examine HRD and sustainability. I then introduce three orientations to understanding sustainability, drawing on Habermas's (1972) three knowledge interests, and examine the implications for HRD practice, teaching and research.

Sustainable development: the Triple Bottom Line

The Brundtland Commission report (World Commission on Environment and

Development, 1987) defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (http://www.un-documents.net/our-common-future.pdf). Ecologically sustainable development is required to protect the diversity and richness of natural resources, conserve non-renewable natural resources, and maintain the integrity of sensitive ecosystems (Shrivastava, 1995). Shrivastava (1995) argued that corporations can play an important role in dealing with ecological problems, along with governments and consumers. Sustainability has moved from a peripheral issue to a strategic issue (Meisinger, 2007) as demands for social responsibility of business have increased from consumers, activist shareholders, NGOs and governments (Fenwick & Bierema, 2008).

The concept of sustainable development contains three underpinning principles, "environmental integrity, economic prosperity, and social equity" (Hahn & Figge, 2011, p.326). This is commonly referred to as the "triple bottom line" (TBL), which requires corporations to focus on "the environmental and social value as well as economic value that they add – or destroy" (Elkington 2004, p. 3). Slaper and Hall (2011) summarise this as profits, people, and planet; in sustainable development the needs of each aspect, and current and future aspirations, are in harmony (World Commission on Environment and Development, 1987).

Implementing sustainable development presents challenges to a company's operations and generates the need for new knowledge. "Processes and products need to be re-invented, controlling systems have to integrate new sets of data, external and internal communication strategies require revisions and basic values and knowledge systems need to adapt" (Siebenhuner & Arnold, 2007, p. 340). Sustainability programs may require a change in organizational culture, demanding new leadership competencies, behaviours and mindsets, and awareness and knowledge at all levels of the business (Rimanoczy & Pearson, 2010). A role emerges for HRD to support learning for organizations to move towards more ecologically sustainable practice. Fenwick (2007) argued that there is a learning gap involving conceptual knowledge, management knowledge, and practical knowledge.

Scholars have theorised HRD and sustainability in a range of ways. Scully-Russ (2012) identified three competing frameworks in sustainability – ecological modernism, sustainable development and new environmentalism, and mapped three models of HRD to align to these – strategic HRD, critical HRD and holistic HRD. Ardichvili (2013) argued that

analysis is needed at the level of the individual, the organization, and society, and provided a conceptual framework for HRD, incorporating corporate social responsibility (CSR), corporate sustainability, and business ethics, linked in a triad. Scully-Russ (IN PRESS) provides a Green HRD conceptual framework incorporating three types of knowledge (performative, narrative and scientific), which stresses a multidisciplinary approach to understanding, noting dynamic tension between competing knowledges. McGuire (2014) presented a model of green HRD, which emphasised the role of leadership. He proposed 6 Rs of sustainable environmental activity – reduce, reuse, recycle, redesign, renew, re-educate.

As noted, sustainability is a contested terrain, in which different paradigms and perspectives across different disciplines seek to define the problems and identify the solutions.

The following discussion seeks to provide a complementary framework for understanding sustainability and HRD.

Conceptualizing sustainability knowledge interests

Habermas (1972) posited three knowledge constitutive interests, namely *technical*, *practical* and *emancipatory* reasoning. The *technical* interest is concerned with prediction and control over natural and social forces, knowledge that "improves the efficiency and/or effectiveness of the means of fulfilling current ends" (Willmott, 2003, p. 96). Knowledge production guided by *practical* reason aims to facilitate communication to advance mutual understanding. Habermas's third focus for knowledge production, *emancipatory*, takes a critical perspective, which seeks to develop deep understanding of structures of relations of power and domination (Willmott, 2003). These three interests provide a useful construct to position the organizational and HRD focus on sustainability.

Sustainability and organization: technical reason.

Technical reason suggests a sustainability focus where the interests of the organization are central, as seen in the shareholder perspective. It is a framework for organizational sustainability within the context of business as usual. The focus of organizational practice might include limited compliance with legal and regulatory requirements. A model of business practice regarding the triple bottom line is one of enlightened self-interest (Kopnina, 2013). Beyond compliance it will focus on recycling, and the development of a Corporate Social Responsibility (CSR) framework for the company. It

is characterised by organizational learning that is inwardly focused, predominantly displaying single loop learning, which is "mechanistic, with individuals responding to error by modifying their behavior without challenging basic organizational assumptions" (Neale, 1997, p. 94).

This mode of thinking is characterized by Simon's (1991) concept of *bounded* rationality. This suggests that decision makers can only review a limited range of factors and possibilities, due to limitations both in the information available to them, and their cognitive and temporal ability to handle its complexity (Clegg, Kornberger & Pitsis, 2011, p. 28). Simon (1991) introduced the concept of *satisficing* which refers to decisions that are both sufficient and satisfying rather than optimally rational, arguing that this is a more common approach to decision-making in conditions of uncertainty (Clegg et al., 2001).

The context of sustainability is one of uncertainty, and bounded rationality helps decision makers and students to find workable solutions to complex and sometimes seemingly intractable problems. But, as Garrity (2012) noted, organizations tend to be focused on short-term results and maximizing shareholder value. Individual or organizational *satisfycing* does not sufficiently take into account the impact on the wider community, the wider public interest focusing on the longer term. Hahn and Figge (2011) argued that a "bounded instrumentality"... "focus on win-win cases does not guarantee that the most sustainable strategy options are identified" (p. 321).

Technical reason is a necessary but overall limited response to the sustainability challenge, particularly for organizations that may not even have made a start on sustainability practices. But at its most basic, it can result in nothing more than a façade of *green washing*, rather than demonstration of any deep ethical commitment to environmental stewardship (Jermier & Forbes, 2003). Ceremonial greening "can take the form of public, ceremonial displays, obscuring the alternative reality of organizational minimalism, inaction or even malfeasance" (Jermier & Forbes, 2003, p. 166).

The sustainability challenge is to look beyond the interests of individual organizations and a "technocentric worldview" in business (Kurucz, Colbert & Marcus, 2014, p. 443). As Kopnina (2013) argued, "business as usual" will only "tinker at the margins of the problems" (p. 52). A bounded notion of instrumentality "establishes a systematic a-priori predominance of economic organizational outcomes over environmental and social aspects" (Hahn & Figge,

2011, p. 325). These arguments require looking outward from the organization beyond the purely financial interests of shareholders.

Sustainability and organization: practical reason.

A sustainable corporation pays "balanced attention to environmental, economic and social elements of the system" (Ardichvili, 2013, p. 457). The sustainability focus moves beyond a shareholder focus, seeing the organization within a wider context of stakeholders (both internal and external), and cultivation of a *corporate conscience* (Ardichvili, 2013). The organization looks beyond profit maximization and focuses on social and environmental values, based on a corporation's moral obligations to all those who have a stake in the business (Mankin, 2009). Hatcher (2002) suggested seeing the environment as a stakeholder, arguing that the organization has responsibilities toward employees, the community, clients, suppliers, and the law in this respect.

Much advice on how to develop a sustainable organization links it to the strategic planning process. There is a need for policy, strategy and action plans, including monitoring and reporting, and staff development programs to ensure understanding and buy-in (C. McConnell, Director of Schumacher College, personal communication, 11 February, 2010)). Organizational resilience is required to enable it to respond to shocks in the system during an era of rapid change, for example oil price fluctuations. Organization culture and objectives may need to evolve to compete in a turbulent environment (Neale, 1997).

Environmental innovation needs organizational learning, and capacity to collaborate with others outside the organization (Neale, 1997). This requires double-loop learning, which entails critical reflection of the fundamental values, policy principles and operational procedures of an organization, possibly associated with radical change such as a major change in strategic direction (Cramer, 2005). Smith (2012) argued that "the more complex, dynamic, turbulent, and threatening the organization's environment, the more necessary double-loop learning is considered to be" (p. 6).

Sustainable development is an *accommodation discourse*, which aims to balance the needs of business and the environment, but still within the overall frameworks of consumer capitalism (Newton, 2009). The aim of *balancing* the needs of the company, society and the environment presents significant challenge, however, and the language of balance downplays and disguises political power, institutional influence and self-interest. Shareholder theory,

still the predominant business model, gives priority to profit maximization based on the corporation's legal obligations to optimize shareholder wealth, and ecological criteria take second place (Jermier & Forbes, 2003; Neilsen, 2003). Sanders (2012) noted that businesses find it difficult to stand their ethical ground in many markets, and sustainability initiatives give way to other more pressing considerations. Shareholder expectations may not be as strongly supportive of sustainability as that of stakeholders (Quairel-Lanoizelee, 2011). Profit remains the underlining driving force for companies (Garrity, 2012). Managers often take a passive rather than a proactive approach to sustainability. Company annual reports show that only "positive pieces of information on CSR are disclosed" (Quairel-Lanoizelee, 2011, p. 84), and brush over how competition can act as a constraint on the social and environmental policies.

The accommodation approach focuses on how competitiveness can be enhanced from greening, using criteria of cost benefit analysis, rather then the needs of the environment being to the fore (Jermier & Forbes, 2003). "Thus, sustainable development as it is now conceived is simply another business strategy that enables more growth" (Garrity, 2012, p. 2461, italics in original). Jermier and Forbes (2003) noted that particularly in the global corporation "all resources, including human and natural, are exploited in the service of accumulation imperatives" (p. 161). Kurucz et al. (2014) referred to the "sustainability paradox", arguing that "our dominant approaches to wealth creation degrades both the ecological systems and the social relationships upon which their very survival depends" (p. 438).

Sustainability and organization: emancipatory reason.

Sustainability challenges the traditional focus on economic growth, in which corporations encourage expanding consumption and consumerism, and as Shrivastava (1995) agued approaches to economic development need to re-conceptualize the relationship between society and nature. Scully-Russ (2012) argued that sustainability requires deep questioning of underlying values and assumptions in society, new mental models are needed, and "deep and systemic change in organizations" is required (p. 402). Whilst this requires practical reason, emancipatory reason challenges underpinning assumptions.

Sustainability throws up complex *wicked problems* where different parties may have different perspectives on problem identification and solutions. "Wicked problems suffer from

a chronic lack of problem definition, the problem boundary and relation to other social issues requiring input, and unrepeatable solutions" (Castle & Culver, 2013, p. 36). Such problems defy the simple accommodation of different perspectives to devise solutions. What is required for sustainability are processes to develop shared understandings and "transdisciplinary synthesis of perspectives" focusing on sources of disagreement (Castle & Culver 2013, p. 39). Learning becomes of central importance to enable organizations and individuals to deal with the interaction of ecological, social and economic systems, involving high levels of uncertainty and long time horizons (Siebenhuner & Arnold, 2007). Cramer (2005) referred to deutero learning - "an improvement in organizational learning processes themselves" (p. 58). Gloet (2006) suggested three linked levels of learning- individual, group and organization. Opportunities for collaboration across traditional, professional and functional boundaries need to be created. Multilevel thinking is needed to link local, regional and global perspectives (Siebenhuner & Arnold, 2007).

Corporate focus on environmental concerns often requires companies to seek out new kinds of information and data (Hahn & Figge, 2011). Interdisciplinary and intersectoral discussion can expose gaps and highlight different perspectives, and a shared vocabulary can be developed. As Fenwick (2007) noted, the environmental movement is promoted largely through informal networks and alliances - amongst business, community groups, trade unions and environmental activists, for example. Sustainability learning needs the capacity to bridge different communities or islands of knowledge, span boundaries and create new networks (Clarke & Room, 1999). Leadership and management capabilities need to be developed, including the capacity to work across boundaries and share knowledge.

Jermier and Forbes (2003) however suggested that it is necessary to move beyond images of organizations as uniform integrated systems, where culture is identified as a consistent, organization-wide force managed by top management initiatives. A cultural perspective on organizing organizational greening recognizes the ambiguity as well as homogeneity within various sub cultural groups (Jermier & Forbes, 2003).

Kopnina (2013) argued that the "enterprise" of *development* itself arises out of modernity and its emphasis on progress, in which economic valuation of nature takes precedence over other types of value, and "creates social inequalities and imbalance between humans and the environment" (p. 57). The notion of sustainable development is anthropocentric, as its concern is for quality of life for current and future generations of

humans, contrasted with ecocentric notions and deep green views (Hahn & Figge, 2011). Kurucz et al. (2014) discussed transforming the ethos of human domination "into one of coevolution of human development and biospheric integrity" (p. 443). Gladwin, Kennelly and Krause (1995) however cautioned that an *ecocentric* paradigm diminishes human distinctiveness and is beset by contradictions. They suggested a *sustaincentric* rather than a sustainability paradigm, which is both people and conservation based.

HRD and sustainability: a conceptual framework

The HRD Sustainability Conceptual Framework which follows seeks to relate the foregoing critique to inform HRD practice, teaching and research. It maps HRD to the triple bottom line of profit, people, planet (interpreted as company, society, nature/environment in the table). It identifies three *sustainability orientations*, drawing loosely on Habermas's (1972) distinction between technical, practical and emancipatory reason, which are termed *Compliance, Cooperation*, and *Co-existence*.

Table 1. HRD and Sustainability—TBL Conceptual Framework.

	HRD sustainability orientations		
	Compliance Technical knowledge	Cooperation Practical knowledge	Coexistence Emancipatory knowledge
Company	Legal compliance, CSR Framework, training, single- loop learning	Strategic HRD, development, single and double-loop learning	HRD as sustainability leader, deutero learning
Society	Shareholder focus	Stakeholder focus, National HRD policy	Networks, alliances fuzzy boundaries, Wicked problems
Nature/environment	Pragmatism, information, recycling	Principle, awareness raising	Collaborative learning, eco- consciousness
	HRD teaching	HRD teaching	HRD teaching
Company	Sustainability/ethics sessions	Sustainability workshops, awareness raising	Embedded sustainability
Society	Problem solving, HRD as a business service	Ethics, awareness raising, best practice	Problem posing, challenge, critique
Nature/environment	Bounded rationality	Theory into practice, reflection	Reflexivity, discourses, paradigms
	HRD research	HRD research	HRD research
Company	Descriptive	Prescriptive, explanatory	Challenging, exploratory
Society	Consensus	Questioning	Dissensus
Nature/environment	TBL, management for sustainability	Environmentalism	Multidisciplinary: politics, environmental science, sociology, philosophy

Note. HRD = human resource development; CSR = corporate social responsibility; TBL = triple bottom line.

HRD sustainability orientations: HRD practice.

Compliance orientation: HRD practice

The focus of HRD practice on sustainability in this orientation would be to support the company on a necessary but limited compliance with legal and regulatory requirements. HRD practice corresponds with a largely reactionary *training* focus (McCracken & Wallace, 2000), for example identifying training required for legal compliance. It might start company thinking on developing a CSR framework, and pragmatic HRD practice such as the basics of information giving and recycling. It would provide an educational focus regarding the social and environmental responsibilities of the organization, present the business case for sustainability, and implement HRD practices and support culture changes to further the company's business and sustainability goals (Lockwood, 2004; Schramm, 2008).

Cooperation orientation: HRD practice

The *Cooperation* orientation suggests a more questioning and awareness raising focus for HRD, and a broader strategic HRD focus. HRD needs to support the creation of a learning culture, encourage double-loop learning, and "foster reflection, creativity, and continuous learning" (ii, 2013, p. 460). Ardichvili (2013) noted that "while awareness can be raised by training and programs, development of ethical and responsible organizational cultures is a result of long-term change efforts, involving, among other things, redesign of formal and informal processes and routines" (p. 459). There is an important role for leadership development. There is need to ensure that the capacity of all staff is geared to rapid change, and the development of organizational resilience (C. McConnell, personal communication, 11 February 2010).

Coexistence orientation: HRD practice

From the Coexistence orientation the goal is to embed sustainability into organizational and HRD practices. Equipping people in organizations to face the complex challenges of sustainability requires a problem posing approach for HRD, which facilitates deep questioning and change. Enabling interdisciplinary and intersectoral discussion can help to expose gaps and highlight different perspectives and facilitate the development of a shared vocabulary to address *wicked problems*.

HRD needs to pay attention to creativity, leadership and problem solving skills, developing expertise in how to manage learning, surfacing implicit knowledge, sharing best practice behaviours (Gloet, 2006). Gloet discussed *boundary - spanning learning*, arguing that "knowledge of sustainability highlights the need for new knowledge, the new ways of managing knowledge and for new work practices to support this process" (p. 403). Boundary spanning includes a willingness to engage in alliances with others, including other firms and/or environmental groups and NGOs (Neale, 1997). Organizational leaders can foster the creation of networks which connect staff with external stakeholders (Fenwick, 2007). Clarke and Roome (1999) refer to "learning action networks ... a set of relationships which lay over and complement formal organizational structures linking individuals together by the flow of knowledge, information and ideas" (p. 297). Multiple bridges, network-like structures "involves learning and action by many people in the company and by many people and organizations in the company's 'stakeholder field'" (Clarke & Room 1999, p. 307).

McCarthy, Crandall, Whitelaw, General and Truji (2011) argued that social, collaborative learning is necessary to help to build resilience and develop adaptive capacity. Triple loop learning sets learning within the social and political context. They define social learning as

an on-going, adaptive process of knowledge creation that is scaled up from individuals through social interactions fostered by critical reflection and the synthesis of a variety of knowledge types that result in a change in social structures (e.g. organizational mandates, policies, social norms). (McCarthy et al., 2011, p. 161).

They propose a conceptual model of social learning which incorporates critical reflection through single loop, double loop and triple loop learning, focusing at the individual/family, regional or bioregional, provincial, national or international levels, and incorporating governance, scientific or local knowledge. As Jermier and Forbes (2003) noted, this should not assume that homogeneity exists between groups. Tosey, Visser and Saunders (2011) also noted confusion around the constructs of 'third order' or 'triple-loop' learning.

Hatcher (2002) argued that sustainability leadership suggests a shift from transactional to transformational, ethical and values-based leadership. The organizational role of HRD professionals means that they are well placed to become sustainability leaders (Ferdig, 2007).

HRD sustainability orientations: HRD teaching.

Compliance orientation: HRD teaching

HRD teaching (eg. on university programs) in this mode might introduce sustainability as a topic, with discussions on environmentalism and ethics, as part of program modules on topics such as strategic HRD. Teaching emphasizes the role of HRD as a business service, which lends itself to problem-solving approaches. Bounded rationality suggests dealing with *what is*, seeking optimal business solutions within existing parameters, rather than challenging underpinning assumptions about business and the environment. Sustainability is taken to be something *out there* to be observed and practiced, whilst maintaining taken for granted assumptions about the role of business in society (Kurucz et al., 2014).

Cooperation orientation: HRD teaching

HRD teaching in this mode focuses on the understanding of theory of sustainability, ethics and CSR, and the challenges of how HRD can support organizations to put this into practice. It includes an interest in societal HRD. Teaching introduces challenges around ethics, and focuses on awareness raising and reflection, and might seek to identify best practice, and encourage theory development. Kopnina (2013) cautions that much education for sustainability is subject to corporate and political sponsorship. Thus HRD teaching of sustainability may fail to develop deep reflection without challenge to the status quo and questioning of key constructs in the sustainability agenda.

Coexistence orientation: HRD teaching

Students of business and HRD are faced with a morally complex future (Gladwin & Berdish, 2010). Sustainability challenges current assumptions in business and education schools. Bennis and O'Toole (2005) assertion about MBA programs could equally be applied to HRD programs: "the entire MBA curriculum must be infused with multidisciplinary, practical, and ethical questions and analyses reflecting the complex challenges business leaders face" (p. 104). Kurucz et al. (2014) argued that a progressive management education "embraces our embeddedness in the natural world and our social relation to one another" (p. 437). Curricula need to incorporate critical thinking and move beyond the focus on corporate

interests "to include notions of social transformation and ecology" (Kurucz et al., 2014, p. 438). Education needs to challenge frames of reference, to emphasize connected and relational knowing (Humphries & St Jane, 2011).

Bennis and O'Toole (2012) noted that professors are often uncomfortable dealing with multidisciplinary issues, and "ill at ease subjectively analyzing multifaceted questions of policy and strategy" (p. 101). The need for new knowledges and capacities to address as yet undefined problems calls for different approaches to teaching. Freire (1972) contrasted *banking education* with education for liberation, and his ideas can equally apply to education for sustainability. In banking education, teachers are dominant over learners, "academic, legitimized, already existing knowledge not only dominates but excludes the possibility of creating new knowledge" (Allman, 1988, p. 96). In education for liberation, "knowledge is no longer seen as fixed but as a critical process of understanding a material reality which is moving and changing" (Allman, 1988, p. 96). Freire (1972) advocates problem-posing education, arguing that education should consist of "acts of cognition, not transferrals of information" (p. 53).

Tutors can encourage reflexive learning, in which students "learn to question and challenge everyday practices or social arrangements by discussing with others the extent to which they can be justified" and challenge "rules of debate, argument assessment, and decision-making processes that the dominant culture favours" (Brookfield, 2005, p. 249-250). The role for the tutor is one of seeking relevant resources (literature, case studies, invited speakers), and posing challenging questions (eg. Allen & Clouth, 2012). They need to recognise that they cannot be a *subject expert* on all aspects, but equally a resource person and facilitator of dialogue. Students and teachers work in collaboration "to create a more complex way of understanding" (Allman, 1988, p. 97). "Problem-posing education involves a constant unveiling of reality......strives for the *emergence* of consciousness and *critical intervention* in reality" (Freire, 1972, p. 54).

Brookfield (2005) argued that teaching critically requires four methodological approaches:

- (a) Teaching a structuralized worldview;
- (b) The need for abstract, conceptual reasoning;
- (c) Self-directed learning;
- (d) Dialogic discussion.

In self-directed learning, students are encouraged to read material in private before engaging in group discussion, which can help to avoid "automaton conformity", a "tyranny of the majority", and uncritical reproduction of dominant ideology (Brookfield, 2005, p. 357).

The Coexistence orientation points to a critical pedagogy, transformed relationship between teacher and learner, encouragement of deep reflection, critique and questioning assumptions, interdisciplinary learning, and developing visions of possibility and engaging with society.

HRD sustainability orientations: HRD research

Compliance orientation: HRD research

As Willmott (2003) noted "a technical interest in prediction and control dominates the production of knowledge about management and organization" (p. 108). An empirical-analytic science predominates (Alvesson & Willmott, 2012). It lends itself to a descriptive focus in HRD research, perhaps examining what HRD practices organizations are involved in, investigating the HRD role in supporting business focus on the triple bottom line, and management for sustainably. Research seeks *consensus* – explanatory frameworks, consistent definitions, and advice for practice.

Cooperation orientation: HRD research

HRD research focuses on developing understanding, a Habermasian focus on practical reason. It moves from description to questioning, seeking explanations, deepening knowledge of arguments for environmentalism, for example, widening the disciplinary focus beyond management and HRD theory. It moves beyond a focus on the interests of the organization to debate the relationship of business with wider society and the environment, and practical and moral dilemmas that arise. It also takes a more explicit moral stance, moving away from the positivist notion of the researcher as apart from the world being studied.

Coexistence orientation: HRD research

Ahlstrom, Maquet and Richter (2009) found that research from an ecological modernization paradigm has emphasized win-win perspectives, seeking profitability and sustainability at the same time. They argued that there is an urgency to research new models

of production and consumption. Research needs to expose companies' actual behavior rather than their espoused values. Exploratory research, for example, can assess phenomena through a new perspective or conceptual lens (Robson, 2011).

HRD sustainability research requires multidisciplinary perspectives, drawing for example on politics, environmental sciences, sociology, and philosophy. Ranciere's concept of dissensus (in Gershon, 2012) is helpful. He noted that in seeking consensus, perspectives are narrowed and options abandoned in the effort to gain common ground between parties. A dissensus perspectives allows "the possibility for inclusion of multiple even contrary perspectives ...without the need to reduce discussion to only those with whom one's perspective resonates" (Gershon, 2012, p. 367). Castle and Culver (2013) in an article entitled *Getting to No* discussed what they term the *method of contested exchange* as a model in policy making. Typically policy processes involve seeking consensus, integrating views from different parties and limiting polarization. But this fails to address often deep disputes about knowledge values and policy goals. As they note "policy problems of great social significance and of large scale and complexity typically defy easy expression" (Castle & Culver, 2013, p. 35). Thus research can focus on multiple and marginalized perspectives, enriched by multidisciplinary frames of reference.

Alvesson and Sandberg (2011) proposed *problematization*, which involves identifying and challenging the assumptions underlying existing theories, as a way of generating novel research questions, as an alternative to the common approach of *gap-spotting*. They provide a methodology that distinguishes between assumptions underpinning theories. For example, "*in-house assumptions* exist within a particular school of thought in the sense that they are shared and accepted as unproblematic by its advocates" (Alvesson & Sandberg, 2011, p. 254). An example given is trait theories of leadership. Questioning trait theories by suggesting that leadership may be defined by social context more than by individual trait would be challenge to an in-house assumption.

The Coexistence orientation presents multiple challenges and opportunities to organizations and HRD. Many of the constructs discussed under the Coexistence orientation do not sit neatly in one category, but may be applicable in HRD practice, teaching or research. For example, learning networks can be encouraged in both HRD research and HRD practice; dissensus can be utilised as a mode of decision-making as well as a perspective on research; problem posing can be utilized as an approach in HRD practice and teaching.

Conclusions

Sustainability throws up huge challenges to the very premises underpinning HRD practice, teaching and research, and there are no easy answers or pre-determined formulae. Scully-Russ (2012) argued that the relationship between HRD and sustainability is mutually co-constructive. HRD has a potentially important role to support learning for and about sustainability within organizations, and needs to address the challenges of incorporating sustainability into HRD curricula and research. The Triple Bottom Line conceptual framework presented here suggests three *orientations* for organizational and HRD responses to sustainability, Compliance, Cooperation and Co-existence. Organizational Compliance with environmental regulations and a shareholder locus, with an HRD input of training, for example, is a necessary but limited response. A Cooperation orientation involves HRD stimulating a more questioning and awareness raising approach, and taking a wider a stakeholder perspective about the challenges presented by sustainability, and the need for deep learning. An orientation of Co-existence recognises that the complex challenges of sustainability involve a problem-posing approach for HRD. It is hoped that this framework can contribute to thinking about HRD practice – as a tool to help frame organizational HRD diagnosis, and a guide to developing sustainability-focused practice. The concepts and constructs discussed in the paper, such as bounded rationality, problematization, and dissensus can help HRD practitioners to frame a learning-focused practice for green HRD. The framework provides suggestions for conceptualizing and exploring sustainability within the curriculum of HRD teaching programmes, and argues for a multidisciplinary and interdisciplinary focus for greening research in HRD. It calls for HRD to stimulate boundaryspanning learning, and the potential for a critical pedagogy to help students and teachers to engage in co-creation of new knowledge.

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