Consumer citizenship education is gaining great currency as an idea and a full-fledged practice, especially in Europe, thanks to the perseverance and intellectual energy of the Consumer Citizenship Network. Consumer citizenship education (CCE) is a marked departure from traditional consumer education. The latter is concerned with the relationship between the consumer and the business/industry sector with the government sector acting as a mediator and protector. The former conceives people as citizens first and consumers second, bringing justice, equality, peace and other notions of humanity into the equation. Conventional consumer education tends to draw heavily on one discipline, economics, as well as the disciplines of political studies, psychology, history and sociology (cultural and group orientations to consumption) (McGregor, 2009b). Consumer citizenship education, simply by the addition of the word citizen, necessitates a different approach. Educators need to move beyond mono- and multi-disciplinary approaches to designing curricula and attendant pedagogy. They even need to move beyond interdisciplinary approaches, wherein two or more disciplines temporarily work together, or educators appreciate the merit of turning to several disciplines to find synergy of ideas. The premise of this paper is that, in order to respect the citizen aspect of consumer citizenship education, educators and policy makers need to turn to transdisciplinary inquiry.

Trans means zigzagging back and forth, moving across, going beyond, the blurring of, and pushing past, existing boundaries. In the context of consumer citizenship education, it represents a deep respect for the interface between ideas coming from academic disciplines and where they meet with the people who are actually experiencing and living the problems the academy strives to address in its isolation. Horlick-Jones and Sime (2004) coined the phrase border-work to refer to the intellectual work that occurs when people living on the borders of the academy (university disciplines) and civil society engage in complex problem solving. A fellow CCN colleague agrees, noting that transdisciplinarity involves an academy-society interface, wherein, through a lengthy and complex process, academe knowledge and action-relevant knowledge are integrated (Liokumovića, 2008).

To date, four CCN network participants have been drawn to the idea of bringing transdisciplinarity (TD) to consumer citizenship education (CCE), as evidenced by papers presented at this conference venue. First, McGregor (2005) broached the topic in a keynote address (Bratislava, Slovakia), explaining that conceiving our work through this lens offers a new form of learning, inquiry and problem posing that involves cooperation among different parts of society in order to meet complex challenges of a global society. Second, Thoresen (2008) asserted that education for consumer citizenship demands transdisciplinary teaching, but this is
not described. Third, at the Sofia, Bulgaria CCN conference, Pålshaugen (2008) was interested in transdisciplinary cooperation, and not education per se. She was intrigued with using transdisciplinary dialogue as a way to deal with the issue of sustainability, anticipating that this approach would facilitate mutual learning and problem solving via cooperation among different parts of society (including academia).

Fourth, Liokumovića (2008) explained that her paper was about providing insight into the theoretical background of CCE in light of inter- and transdisciplinary approaches (she hyphenates these words). However, although she briefly made a very clear distinction between the two approaches, she continued to use the hyphenated term, and did not specifically address transdisciplinarity. Like Pålshaugen (2008), she focused on transdisciplinary cooperation, recognizing, as a key challenge, the lack of a common methodology, which is separate from the research methods of particular disciplines.

This paper will use Thoresen’s (2008) call for transdisciplinary teaching and Liokumovića’s (2008) line of thinking (academe-society interface) as its jumping off point, beginning with clarifying two points. First, interdisciplinarity and transdisciplinarity are two totally different approaches to global problems, and hyphenating them together indicates a natural stage of progression from one worldview to another. As Liokumovića so aptly noted, interdisciplinary study implies a disciplinary interface, and is confined to removing the boundaries between disciplines within the academy (see McGregor, 2007). Transdisciplinarity moves way beyond this, involving an academy-society interface, wherein, through a lengthy and complex process, academe knowledge and action-relevant knowledge are integrated (Liokumovića). Not only are the walls taken down between the disciplines within higher education, but the walls are taken down between higher education and the rest of the world. The intent is to enable new types of knowledge to emerge through complex and integrated, mutually learned insights. This embodied knowledge is created in the spaces between the disciplines and society (rather than in separately walled, disciplinary knowledge silos) (McGregor).

The second fundamental distinction is the sharp difference between methodology and methods, terms that should not be used interchangeably (per Liokumovića, 2008). Methodology is a term used to refer to four factors (axioms) that distinguish one research paradigm from another: (a) what counts as knowledge and how we come to know it (epistemology); (b) what counts as reality, feeling, existence or being (ontology); (c) what is acceptable as rigour and inference (logic); and (d) what counts as fundamental values and what is consciousness (moral choices, ethics, and normative judgements) (axiology). Once someone decides on a specific methodology (the three most common being positivistic, interpretive/narrative and critical), one can consciously choose particular methods of sampling, data collection, analysis and sharing of results, and particular pedagogical approaches to teaching and learning. As a point of interest, McGregor (2007, 2008) asserted that consumer studies definitely aligns itself with the positivistic (empirical) methodology, with recent movement towards a critical methodology via consumer citizenship scholarship and education.

Bringing the TD methodology to consumer citizenship education is a new initiative, almost as new as the methodology itself, which includes four axioms: complexity and emergence (knowledge), multiple levels of reality, the logic of the included middle, and integral value
constellations. The remainder of the paper focuses on what consumer citizenship education might look like through a transdisciplinary methodology, drawing heavily from McGregor (2009a,b). The ideas in this paper serve to scaffold future conversations about the possible nature of pedagogical CCE innovations. The contents of the paper should enable CCN participants to expand on Thoresen’s (2005) CCE interdisciplinary guidelines. CCE can become a transdisciplinary pursuit employing the four-axiom TD methodology.

**Four Axioms of Transdisciplinary Methodology**

Consumer citizenship educators need transdisciplinary knowledge if they intend to educate people to solve the problems of humanity, problems that are exacerbated by unsustainable, unethical, even immoral, consumption. Transdisciplinary knowledge is created via a new methodology: (a) multiple levels of reality and attendant levels of perceptions, (b) the logic of the included middle, and (c) knowledge as complexity and emergence (Nicolescu, 1985, 2002, 2005b; 2006a,b; 2007). Cicovacki (2003, 2004) recommends a fourth axiom for a TD methodology, that of values (axiology) (see Figure 1).

**Figure 2**

**Axiom 1 - Ontology: Multiple Levels of Reality**

Conventional consumer education is predicated on the positivistic and empirical notions of fragmentation, separation, dualities (this or that), and universal laws that apply to everything and everyone (no concern for context). From this perspective, scholars and educators assume that our picture of reality (e.g., consumption) is incomplete and made up of many separate parts and that they can conduct experiments about this reality, eventually building up a more complete picture. To do this, they design taxonomies, categories and hierarchies, the most famous one in consumer education being Bannister and Monsma’s (1982) classification system for consumer education concepts. This is not a bad approach to consumer education. It is just not the approach that would be used within a TD methodology.
Rather than assuming that we can best understand consumer education as comprising one level of reality (static, rationale, objective, generic, with mind, body and soul disconnected and separate), a TD methodology assumes there are multiple layers of reality that interact with each other. Consumer citizenship educators would respect the dynamic, complex relationships between (a) the political, social, historical and individual levels (called TD subject, the internal world of humans) and (b) the environmental, economic and individual and planetary/cosmic levels (called TD Object, the external world). The internal TD subject involves a flow of consciousness across different levels of perception of the world. The external TD object involves the flow of information across different levels of reality. Moments of breakthrough happen, aha moments, when consciousness meets information and they share, what TD theory calls, the zone of non-resistance. TD methodology employs the concept of The Hidden Third to refer to the place where people’s experiences, interpretations, descriptions, representations, images, and formulas meet. (c) Three levels of reality exist in this zone: culture, religion, and intuition and spirituality (see Figure 2).

Figure 3

For consumer citizenship educators, this means a deep shift from focusing on taxonomies, lists, individual theories, definitions and the like to the processes and energy flows inherent in deep, complex interactions among people’s internal world, their external world and the mediating factors of culture, art, religion and spirituality. CCN is deeply involved with integrating consumer education into education for sustainability, which is predicated on four pillars: economic, social, cultural, environmental (Clugston, 2004; McGregor, 2009c; UNESCO, 2005). It seems like a natural transition for educators to turn to this particular axiom of TD - an ontology of multiple levels of interactive layers of reality replete with levels of perceptions and flows of information and consciousness among these layers of reality. The result is a unity of realities, a unity that better reflects the complexity of human issues influenced by our consumption.

Axiom 2 - Logic: The Included Middle
The logic axiom is concerned with the habits of the mind that are acceptable for inference.
and reasoning. Conventional consumer education is predicated on the logic of exclusion, lived out in our pedagogy as: deduction (cause and effect), linear thinking, reductionism (breaking things down into parts to understand the whole from which they came), and either/or approaches with no room for contradictions. Scholars strive for a complete theory of consumer education, a favorite pastime of people embracing this logic. Newtonian logic (Isaac Newton was a classical physicist) assumes that the space between objects is empty, flat, static and void of life. Consumer educators often hear the sayings, “That student fell through the cracks” and “People need a financial safety net in bad times so they do not fall into the depths of financial ruin.” Perceiving this space as empty and void means consumer educators do not have to pay any attention to it - it is not part of reality.

On the other hand, a TD methodology embraces the Logic of the Included Middle. This inclusive logic enables people to imagine that the space between things (especially between academic disciplines, in the academy (university system) and civil society) is alive, dynamic, in flux, moving and perpetually changing. It is in this fertile middle space that transdisciplinary manifests itself. Whereas interdisciplinarity builds bridges between disciplines so ideas can cross back and forth across borders (assuming that a bridge is needed to cross the deep chasm between siloed fields of study), transdisciplinarity has people stepping through the zones of non-resistance (the Hidden Third) onto the fertile, moving floor of the included middle, where they generate new transdisciplinary intelligence and knowledge, together (see Figure 2).

A useful metaphor for this idea is the lava-lamp (see Figure 3). As a soft light source, it is see-through container in which one watches the slow, chaotic rise and fall of randomly shaped balls of wax. The ever-changing patterns are invigorating, progressive and in perpetual motion. Classical Aristotelian logic (reality as dualities) says there is no middle ground. In practice, this means that there are many instances when people from different disciplines or in civil society cannot talk to each other; hence, there can be no integration or generation of new knowledge (MacCleave, 2006). The Logic of the Included Middle holds that there is middle ground if people accept that different actors have different perceptions of things. Finding new knowledge in the fertile middle ground is possible when everyone’s ideas are heard. For each person, his or her point of view is his or her truth until it encounters something else, the ideas from another person or discipline. The balls of wax represent the formation and embodiment of this new knowledge.

If people can move about (dance) in the middle ground (on the floor of the lava-lamp), come in contact with each other and get motivated, an energizing force is generated - a synergy is created. A sense of community and belonging is nurtured - a sense that they are part of something bigger than each one of them. At the same time, there is a realization that everyone is a new and different person in each relationship formed in the fertile middle. The strength and potentialities that emerge from this intellectual dance are life giving and transformative. In this space, people
would always wonder, and seek far-reaching solutions to the world’s pressing problems. When people use the logic of the included middle (making a space for contradictions and discontinuities in realities) to move through the different levels of reality, they generate a permanent possibility for the evolution of knowledge. Theories at any given level of reality become transitory theories, which are open to change when confronted with contradictions from other, even new, levels of reality. Knowledge becomes an open, complex structure, rather than a completely unified theory (Max-Neef, 2005). When educators design consumer citizenship curricula using the logic of the included middle, they will naturally turn to all of industry, government and civil society, and most especially to those implicit in, and affected by, the fall out of unsustainable and unjust consumption. No longer will curricula be designed in isolation, implemented using the logic of the exclusion. Relationships, partnerships, collaborations will be everything, BUT from the logic of the included middle.  

**Axiom 3 - Epistemology: Knowledge complexity and emergence**

From a TD perspective, the problems dealt with in CCE curricula are not the mundane issues of credit, debt, and financial wellness; rather, they are the pervasive problems of humanity that simply cannot be dealt with using the knowledge from one discipline: the human condition, unbalanced energy flows, unfulfilled human potential, hindered freedom and justice, unsustainability, disempowered individuals and communities, uneven distribution of resources, and abuse of personal and political power through human aggression and uneven development. It is because of these conditions of humanity, because of prevailing paradigms and ideologies, that people experience the problems they do as consumers (McGregor, 2008). Consumers face the symptoms of larger-than-life complex, emergent problems. Therefore, to create transdisciplinary knowledge to deal with these symptoms, educators need to strive for a marriage of environmental sciences, economics, politics, labour laws, sociology and anthropology, health and many other disciplines (multiple levels of realities) in conjunction with the integration and cross-fertilization of insights from the academy with private and public sectors and civil society (logic of inclusion).

To that end, a TD methodology embraces different notions of what constitutes knowledge than do the other three dominant methodologies evident in consumer citizenship education (empirical, narrative and critical). To describe this, we need a new vocabulary, or at least different understandings of familiar words, especially emergence and complexity (as distinguished from complicated). *Complexus* means that which is woven together (Morin, 1999). While complicated and complex have the same root, they do not mean the same thing in a TD methodology. A complicated problem is characterized as hard to solve because it is intricate, tangled, knotty and detailed. A complex problem has the additional feature of emergence.

Figure 5 Knotty complicated problem (www.sciencedaily.com)
As an example, poverty can be seen from a conventional stance to be a knotted mess, comprising global and personal security, human rights, universal rights, moral responsibilities, order with justice, and global as well as intergenerational justice. It is one thing to untangle the strings of a complicated problem, but quite another to re-weave them with new strings into a new whole, and in the process gain a better understanding of the world. Emergence comes into play now, referring to novel qualities, properties, patterns and structures that appear from relatively simple interactions, qualities that did not exist when presented in isolation. To continue the example, emergence means people can assume that poverty is continually changing. It is a rich weave of societal structures and functions. This new weave of poverty (and people’s understanding of poverty) keeps changing because new and coherent structures, patterns and properties emerge as a result of the interactions between people trying to address poverty while working within a web of changing relationships (in the included middle ground). Original perceptions about addressing poverty are left behind or transformed as a new weave and fabric takes shape (the activity within the lava-lamp). The energy created, the information generated and the partnerships formed, also constantly change as understandings about poverty change - everything is in flux and in-formation (see Figure 5).

For consumer citizenship educators, instead of just dealing with indebtedness, credit acquisition practices and the like, they could grapple with the human problem of poverty and unequal resource distribution that can play out in consumers’ lives as issues of credit, debt, and housing issues. Their daily life becomes more complicated (knotted) and complex (presence of order and disorder as things emerge). The TD methodology further requires that people adopt new understandings of order and chaos. They have to learn to conceive of relations between order, disorder and self-organization, rather than relations as empirical determinism. The latter holds that every state of affairs is determined by what came before it and constitutes a link in an unalterable chain of events: get a credit card, misuse it, get in debt, become poor - one thing leads to another in a predictable pattern. In the empirical methodology, chaos and disorder are seen as signs of deep trouble in the system. Not so, from a TD methodology. Wheatley (1999) explains that order and chaos are mirror images of each other. Order is created through chaos, through the processes of fluctuations, changes and disturbances. Chaos is order without predictability and very different from the concept of order in the old science - predictable, controllable and consistent.

As well, a TD methodology includes the notion of self-organizing systems. Chaos is a
necessary place to dwell if people wish to engage in transdisciplinary inquiry and practice. They have to trust that new insights will appear in this chaotic state, believe that they are self-organizing beings able to change. Being stable, while being open, is foreign to the old science, which assumes that when things wear down, the center cannot hold and things grind to a halt (even fly apart). In the TD methodology, being stable, while open, happens because of people’s deep stabilizing center where they know who they are, what they need to do and that they are not acting alone (in the lava-lamp). As people mature and develop self-knowledge, they become more adept at this deeper, core stability (see Figure 6). What comes to dominate over time is the internal dynamics of the system instead of the outside influences. Because people are partners with the system (multiple layers of reality), they gain autonomy from the system. The more freedom people have to self-organize, the more order there is. The system and people co-evolve over time. From a TD methodology, consumer citizenship educators would strongly believe in keeping themselves and students off balance so that they can change and grow through an open exchange with the world. It is then that they can behave in ways that defy the normal expectations and move themselves to new states of disequilibrium, knowing that a deeper stability is serving as their foundation.

People would come to welcome chaos, emergence and complexity because they know it is going to lead to personal growth and evolution. Change creates chaos (a lack of order or regular arrangements). People will self-organize (reorganize) when they accept chaos and seek solutions to the lack of order (the problems of humanity). This reorganization leads to renewal. People do not try to maintain the old order but enter into trustful, sharing relationships with others who have the same vision and relevant information and together create a new world and creative solutions to complex, emergent problems. Through rich processes and exchanges, multiple minds can interact and produce a complex knowledge containing its own reflexivity (in the lava lamp). The knowledge is alive because the problems the knowledge addresses are alive, emerging from the life world. This is a powerful methodological approach to consumer citizenship education.

**Axiom 4 - Axiology: Integral Values Constellation**

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1 As a caveat, not all TD theorists believe there should be a fourth axiom of axiology. Nicolescu (2007) credits Erich Jantsch (an Austrian) for underlining the necessity of inventing an axiomatic approach for transdisciplinarity and also of introducing values in this field of knowledge. Nicolescu does not see the need for a fourth axiom. He also credits Cicovacki (2003) as saying there is no need to introduce values as a 4th axiom (Nicolescu (2006b, p.154); yet, perplexingly, Cicovacki explicitly says “transdisciplinarity requires the forth pillar as well, a new transdisciplinary theory of values” (see also 2004, p.1). Time will tell how well this idea is received, but
All of this working together in fluctuating, enriching and challenging relationships necessitates a concern for values. van Breda (2007) explains the world is facing a *polycrisis*, a situation where there is no one, single big problem - only a series of overlapping, interconnected problems. In a polycrisis, there are inter-retroactions between different problems, crises and threats. This complexity infers the need for more than a single expert’s solution. However, interactions between multiple actors as they problem solve a polycrisis will give rise to value conflicts and contradictions. These conflicts can result in power struggles. In a TD methodology, power is energy. Power is the capacity generated through relationships. Without relationships, there cannot be power. Because power is energy, it needs to grow. Whether the power people generate as they work together to solve complex, emergent problems is negative or positive depends upon the nature of the relationships. That in turn is predicated on values.

Transdisciplinarity is about understanding the problems of the world (Nicolescu, 2007). By association, transdisciplinarity must be concerned with values. Because TD is deeply influenced by ethical and pragmatical matters, consumer citizenship educators must continue to concern themselves with axiology (the science of values, ethics and morals). One of the intents of axiology is to link thinking (valuing) with action (Giuculescu, 1998). Consumer citizenship is very action oriented. Within transdisciplinary solving of complex, emergent problems, thinking and action are intricately bound, necessitating a key focus on values. Indeed, Bazewicz (2000) affirms that transdisciplinarity holds a holistic vision of the world, and is concerned with the local and global integration of values. So is consumer citizenship (Thoresen, 2005).

Hartman (1967) posits that everyone’s value talent is in motion, changing as situations change around them. Consumer citizenship educators can learn from this approach. Three dimensions of values form the apex of anyone’s valuing process, and each person values things in one of these three ways, or in some combination: (a) intrinsic value (personal or spiritual empathy and self-esteem), (b) extrinsic value (practical or situational, including role awareness and practical judgement/thinking); and, (c) systemic value (conceptual or theoretical constructs of the mind including: system judgement (the ability to judge order within a system) and self-direction, motivation and persistence. The result can be tension amongst the three dimensions of values. Bottom line - how people think will determine how they act in a problem solving situation. Consumer citizenship educators can appreciate that *proper valuing* requires attentiveness to all dimensions. To illustrate using sustainable consumption, a person may prefer a particular corporation (intrinsic), but a balanced value attention would also include paying attention to the vendor’s performance according to corporate social responsibly sourcing standards (extrinsic), and its performance in a legal manner (systemic).

van Breda (2007) urges us to keep looking for agreement in the area of axiology, arguing that, in order to develop necessary tolerance of different viewpoints so we can stay engaged in conversations about the complex problems shaping the human condition, we have to respect the role of axiology in transdisciplinarity. I tend to agree. Küpers (2009) asserts that changes in value

it is included in this paper because it seemed salient.
mixes are a key part of the rapidly changing global village and the profound changes are taking place at all levels. He agrees with van Breda, that values are often the missing link in providing strategic solutions to key, global issues that are informed by a collage of differing worldviews held by individuals, cultures, nations and regional and international groups. He explains further that peoples in civilizations progress naturally through three value systems: (a) collective values (tribal, dictator/power and stability and order); (b) individual values (individual freedoms, private enterprise, free market values, then environmental and ecological values); (c) integrative/integral values (integration of all of the previous values in order to build a stronger integrated approach to global issues).

Consumer citizenship educators need to appreciate that it took centuries for the first two value systems to evolve and the world is only just now approaching any semblance of integral values (Küpers, 2009). That is why it is crucial they continue their focus on values and citizenship (Thoresen, 2005). The transdisciplinary dialogue, by its very nature, will witness the inescapable value loading of every inference and every opinion. Every line of conversation will face a potential clash of values, ethics and morals. Educators need to reconcile the different sorts of knowledge characteristic of the sciences in the academy with the involvement of citizens in an extended peer community (Funtowicz & Ravetz, 2008). They have to redefine and articulate tomorrow’s values and reflect on the direction these values may lead humanity (Bindé, 2004). Society runs the risk of bad decisions if the world of values (axiology) is not taken into account, and if conflicts cannot be resolved. Given the polycrisis we now face, we cannot risk too many bad decisions, nor persistent conflict. People need to be able to respect the value of the differences between themselves, and build on those insights. An integral value constellation is an laudable goal for transdisciplinary consumer citizenship educators.

Conclusion

If the conditions needed for the generation of transdisciplinary knowledge are in place (levels of reality, logic of the included middle, complex knowledge and emergence, and an integral value constellation), a platform is created from which to dialogue about consumer citizenship and the power of the transdisciplinary methodology. As noted, the ideas in this paper serve to scaffold future conversations...
about the possible nature of pedagogical CCE innovations. The contents of the paper should enable CCN participants to expand on Thoresen’s (2005) CCE interdisciplinary guidelines. CCE can become a transdisciplinary pursuit employing the four-axiom TD methodology.
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