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Article abstract

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Beyond the Theoretical Impasse: Extending the applications of Transactional Distance Theory

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Abstract

The premise of this article is that the Transactional Distance Theory (TDT) should be accepted as a global theory for the further development of distance education. Despite the fact that a transactional approach seems to be consciously or unconsciously adopted by theorists and practitioners alike, the reluctance to recognise it as a global theory has plunged distance education into a theoretical impasse from whence there has not been much development. It is argued that the TDT can have applications along all the supply chain of the distance education enterprise: it can explicate and ensure the sustainability of quality distance education in a technology-driven world, and; encapsulate the national concerns for policy development. TDT is seen as a useful instrument that should effectively inform institutional as well as national development.

Keywords: Transactional Distance Theory; distance education

Introduction

The development of theory in distance education is seen as crucial for its sustainability. Since the 1950s, there have been attempts to theorise distance education activities, and to explain underlying initiatives and endeavours (Black, 2007). Wedemeyer (1961, cited in Garrison, 2000) introduced the concept of independent study or learning as opposed to correspondence education. Ever since, theory has been in ebullition, with various emerging tendencies. It has long been argued (for example Moore, 1993; Amundsen, 1993; Moore & Kearsley, 1996; 2005; Garrison, 2000; Saba, 2003, Moore, 2007) that there needs to be a global, comprehensive theory that can explicate all activities pertaining to distance education. While Moore has long claimed that the Transactional Distance Theory (TDT) is one such theory (Moore & Kearsley, 1996; 2005; Moore, 2007), there appears to be hesitance over accepting it as such, despite the fact that a transactional approach seems to be consciously or unconsciously adopted by theorists and practitioners alike. This apparent reluctance to hail the Transactional Distance Theory as a global theory has plunged distance education into a theoretical impasse from whence there has not been much development. The emergence of two theoretical synergies has been noted (Saba, 2003, p. 4) as has the need to develop a third and more comprehensive synergy.

This research paper adopts the view that the theoretical impasse can be crossed with the recognition of Moore's Transactional Distance Theory as the global theory that can explicate and

ensure the sustainability of distance education in a technology-driven world. It further analyses its possible applications beyond simply the educational experience to encompass more general concerns like quality assurance and policy development. It is thus proposed that the Transactional Distance Theory be accepted as a global theory.

About Theoretical Synergies

In their analyses of theoretical development in distance education, Saba (2003) and Garrison (2000) report the evolution of synergies and syntheses respectively. Thus Garrison argues that there has been a marked shift of a synthesis which reflected early preoccupations with organizational and structural constraints to a synthesis which carries transactional concerns related to teaching and learning. In a similar vein, Saba reports two main conceptual synergies whereby one with Holmberg, Wedemeyer and Moore, which places the learner at the center of the education process and makes the centrality of the learner a distinguishing feature the distance education; and another synergy presented by Peters, Garrison and John Anderson which is primarily concerned with structural issues concerning how the field is organized and how it runs without losing the centrality of the learner.

Concerned theorists have compiled all existing theory in one publication that has since become a noted reference (Keegan, 1993). Among all the theories developed by Moore, Peters, Holmberg, Keegan, and Garrison et al. (cited in Amundsen, 1993; see Table 1), it appears that the one developed respectively by Moore has not only stood the test of time but has been extended upon and has even seen practical applications (Saba, 2003). These have also been extensively documented by Moore (2007). Briefly, this claim, which will be further discussed, can be sustained by the about-face made by theorists like Holmberg who ultimately moved from his self-proclaimed as unfortunately and regretfully mistaken as authoritarian (Holmberg, 2003; 2007) guided didactic conversation to a new approach now known as the teaching-learning conversation which bears strong resemblance to Moore's idea of educational transaction. Earlier, Garrison (2000) had confirmed the importance of transactional issues in his discussion regarding the shift from structural concerns to transactional ones, and even reported how the plethora of above-named theorists had aligned themselves with Moore's transactional perspective. While distance education gained more amplitude, there seems to have been a singular divorce between theoretical development and practical development. This was compounded with the ushering of the World Wide Web in this scenario, whereby technology has received more attention than distance education itself; as well as the prevailing conceptual confusion around distance education (Moore, 2007, pp. ix-x; 2007a, p.58). As a result, there appears to be a complete misunderstanding regarding what constitutes the Transactional Distance Theory and its possible applications; research is carried out in an atheoretical manner and; finally, an impasse regarding distance education theory which has not developed much beyond Saba's incrustation of the systems approach in the Transactional Distance Theory (Saba, 1988; Saba &Shearer, 1994 cited in Moore & Kearsley, 1996; Saba, 2003; Saba, 2008). Garrison (2000) argues that "whether the leaders of [distance education] initiatives are the technically literate or the politically powerful, they generally lack a coherent understanding of distance education practice" (p. 1). This leads to a rift between program developers, who can be called distance education purists and those who are educational technologists, without being necessarily versed in distance education with its full range of available opportunities to achieve educational outcomes.

This confusion appears to have arisen in the wake of a paradigmatic shift from the organisational synergy to the transactional synergy. Saba (2003) and Garrison (2000) have noted that the concern of distance education practitioners had been initially with putting in place logistics to

widen access and decrease geographical distance. This first synergy pertained to organisational issues. Gradually, the focus shifted to the teaching and learning activity as a meaningful one, and energies were channelled towards making this experience at least as good as face-to-face education. Eventually, there appeared to be no significant difference between distance education and face-to-face education (Saba, 2003, pp. 6, 18). With the advent of technology and the focus on transaction, the question remains posed: "the ultimate theoretical challenge of any field of practice is to achieve a synthesis of perspectives and theories (i.e., global theory)" (Garrison, 2000, p.10). What, therefore, can this theory be? What are the concepts and constructs that can be used to explicate the distance education activities? What is it able to explicate? This implies that a third synergy is vital and should help us go beyond the theoretical impasse. It is proposed that the Transactional Distance Theory be taken as a global theory for the following reasons: the current need for a global theory is still recognised thereby suggesting a vacuum that has to be filled; it carries elements that are inherent in all the other theories developed so far while the converse cannot be asserted; most earlier theorists are now recognising the transactional nature of distance education and are modifying their own earlier propositions in terms that reflect aspects of the TDT. To reach a sustainable answer to the questions posed and to justify the emergence of a third synergy and the recognition of the TDT as the global theory, a review of theoretical development in distance education is first necessary.

The Development of Distance Education Theory

An overview of distance education theory demonstrates that during its earlier stages, most distance education theorists have adopted a holistic approach to the development of theory (Saba, 2003). Their conceptualization addresses overarching issues such as how to define its characteristics and how to distinguish distance education from other forms of education. As various theorists have contributed their own theoretical building blocks, there has been an important debate over the 'appropriate' theory.

The last three decades have witnessed the formalisation of distance education as a discipline. Several theoretical frameworks have been developed in an attempt to encompass and explain the activities in distance education. As theorists have tried to position their thinking, there seems to have been a lot of 'noise' among scholars around what is the most appropriate or most comprehensive theory to explicate the activities within distance education. This 'noisemaking' has been fruitful – it has allowed the emergence of a series of thinking as demonstrated in Table 1.

The following table has been adapted from Amundsen (1993) to summarise some of the most discussed theories on distance education.

Table 1. A comparison of theoretical perspectives (adapted from Amundsen, 1993, p. 70)

Framework	Central concepts	Primary focus	Apparent influence
Peters- The Industrial model	Industrial Post- industrial	Match between societal principles and values	Cultural sociology
Moore- Transactional distance theory	Transactional distance (dialogue, structure) Learner autonomy	Perceived needs and desires of the adult learner	Independent study
Holmberg- Theory of teaching in distance education	Learner autonomy, Non-contiguous communication Guided didactic conversation	Promotion of learning through personal and conversational methods	Humanist approach to education
Keegan- Theory of reintegration of the teaching and learning acts	Reintegration of teaching and learning acts	Recreation of interpersonal components of face to face teaching	Framework of traditional pedagogy
Garrison (Shale, Baynton) – A theory of communication and learner control	Educational transaction , Learner control, Communication	Facilitation of the educational transaction	Communication Theory – Principles of adult education

Despite the similarities and differences in the theories described in Table 1, however, the author of this paper is of the view that the most comprehensive one is, indeed, the one developed by Moore (1993). To use a scientific metaphor, it is a global theory that carries the stem cells of other theories. The importance and difference with the Transactional Distance Theory, however, is that it can encompass both organisational and transactional issues without losing sight of the learner, the institution, and the nation altogether. This can be proved by the way the thinking of all the other authors seem to be redirecting their work towards Moore's thinking – that is, the organisational synergy is moving firmly towards the transactional one.

For instance, Peters (1993) developed the industrial model whereby distance education carried compartmentalised activities that could be optimised if a division of labour approach was utilised. Subsequently, he has revised the industrial approach to distance education to include transactional elements and to think more in pedagogical rather than industrial terms. While distance education is, according to him "a typical product of industrial society" (Peters, 1993, p. 57), the post-industrial era "calls for the design of new models of distance education [that will have to] rely on self-directing and self-controlling – that is, on students becoming autonomous". In his revised position, he "extends independent forms of learning at a distance (i.e., self-learning and tele-learning) with the inclusion of social intercourse" (Peters cited in Garrison, 2000, p.7). Indeed, Peters later argues that the "industrial approach to distance education needs to be seriously examined" (Peters cited in Garrison, 2003, p. 164). In addition, he believes that "for students to be autonomous, they have to be "meta-cognitively, motivationally and behaviourally active participants in their own learning" (Peters cited in Garrison, 2003, p.164).

Another noteworthy author, Holmberg has also revised his position to include a more comprehensive framework. Holmberg's core view was that distance education is more effective when it is carried out through a "guided didactic conversation" (Holmberg, 1989, p. 43). In essence, he argues that distance education is a "friendly conversation [fostered by] well-

developed self-instructional materials [that carry] feelings of personal relation . . . intellectual pleasure [and] study motivation" (p. 43). Garrison argues that "despite the fact that conversation was the defining characteristic in Holmberg's theory of distance education, this theory was directed to the pre-produced course package and clearly within the industrial paradigm" (2000, p. 8). Indeed, his earlier focus which was on "the inter-personalisation of the teaching process at a distance" and carried similar elements to Moore with regard to learner autonomy as the ideal and flexibility in terms of negotiable entry and exit points and assignment deadlines [which appear to be a precursor of *open and distance education*] was later modified to include a more comprehensive framework (Amundsen, 1993, p. 65). This new framework included issues like "feelings of belonging and cooperation" (Holmberg, 1989, cited in Amundsen, 1993, p. 66) or empathy (Holmberg, 2003; 2007). This theory carries elements of Moore's theory at its inception and when modified included an increasing number of elements inherent in the TDT.

Keegan (1993), on the other hand, believes that distance education should be carried out along lines that replicate the face-to-face educational transaction. He argues that there is need to reconstruct the moment in which the teaching-learning interaction occurs (Keegan, 1993). According to Keegan, "a theoretical structure for distance education focusing on the reintegration of the teaching acts by which learning is linked to learning materials may go some way to compensating for the location of the students, causing the lack of eye-to-eye contact which is so important in education" (p. 131). This view diverges from Moore's and Holmberg's views that separation is an advantage and a challenge to the autonomous learner (Amundsen, 1993). Keegan's view is also important because the recreation of the face-to-face educational transaction is, indeed, considered in both Holmberg's and Moore's theory. The only difference is that the two latter theorists place more trust in the learner's ability to take responsibility which is not the case with Keegan. However, major aspects of this theory as well are found within the Transactional Distance Theory.

Garrison's theory of communication and learner control also contains elements that can be assimilated to the Transactional Distance Theory. He argues that "the educational transaction is 'based upon seeking understanding and knowledge through dialogue and debate' . . . and, therefore necessitates two-way communication between teacher and learner (Garrison, 1989, cited in Amundsen, 1993, p. 67). This two-way communication should be supported by technology and managed in a manner that control over the transaction is negotiated between the teacher and the student. The concept of learner/ teacher control is thus proposed partly in lieu of the concept of independence or autonomy used by both Holmberg and Moore.

Eleven years later, Garrison still deplores the lack of global theory: "The ultimate challenge of any field of practice is to achieve a synthesis of perspectives and theories (i.e., global theory) that reflects the complete continuum and is inclusive of a full range of practices" (Garrison, 2000, p. 12); three years later, he agrees that his own position regarding the self-directed learner or the autonomous learner is more aligned with the Transactional Distance Theory. By arguing that "the complementary issues of control and responsibility for students and teachers must be considered in any conceptualisation of self-directed learning if it is to have any relevance for distance education or any educational experience" (Garrison, 2003, p. 163), Garrison aligns his views with those of Moore as expressed in the Transactional Distance Theory whereby through the autonomy dimension, transactional distance goes beyond control by raising the importance of cognitive, meta-cognitive, and learner responsibility issues. Despite this alignment, Garrison still remains tangential to the Transactional Distance Theory because he uses one particular concept – self-directedness – as his springboard. Nonetheless, this approach ushers in concepts like cognitive, meta-cognitive (including control and/ or self-directedness and/ or responsibility) and

affective (including socio-economic issues). These are the essential organising principles that are defined by Deschênes and his collaborators in an article that analysed the different aspects of learning activities (Deschênes Bourdages, Michaud, & Lebel, 1992). These aspects are further developed and synthesised by Deschênes in several of his writings (Deschênes, 2006; Deschênes & Maltais 2006) and emerge as three main strands that are inherent in the development of a third synergy. Despite the finality in Moore's tone when he explicates the Transactional Distance Theory as a "global theory" that has a place for both a highly mechanical system (as postulated by Peters) and a more learner-centered interactive relationship with a tutor, as well as "every variation of these perspectives" (Moore & Kearsley, 1996, p.199), Garrison (2000) notes the need to search for an appropriate theoretical framework, which he believes is not "a realistic expectation for distance education theory in the near term" (p.12). As Saba (2003) notes, from the two synergies that had emerged there is now a renewed synergy that increasingly reflects a convergence towards Moore's Transactional Distance Theory. This third synergy will thus be made up of a combination of organisational and pedagogical pillars supported by cognitive, meta-cognitive, and affective strands, braided together in the global theory niche. It is now fitting to consider the scenario in which much distance education research has been carried out (that is without a solid theoretical grounding) and the resulting implications.

Theory or Atheory?

From the literature it is indicated that much research that is published and much practical work that is done in the name of distance education does not appear to be grounded in any particular distance education theory. While many organizations offer some form of distance education, their related activities cannot be explicated in terms of the constructs of any distance education theory. The study carried out by Lee, Driscoll, and Nelson (2004) and the views adopted by Gibson (2003), and Glickman (2006), all point to the atheoretical nature of most research carried out by distance education practitioners. Lee and colleagues (2004, p.237) are explicit in their content analysis of four prominent research journals; about the fact that research in distance education rarely reflects educational and psychological theory; that there is a paucity of theory-based studies; that researchers do not appear concerned with issues of validity and reliability (especially with regards to quantitative studies) and; the fact that "new research methodology and paradigms are needed to advance distance education research" (Lee, Driscoll & Nelson, 2004). In addition, Gibson (2003) argues that "many articles on learners and learning appear to be without theoretical or conceptual foundation raising an interesting set of issues and questions" (p. 147). Similarly, Glikman asserts that most research is atheoretical, and thus opens up the possibility of technology superseding pedagogy at the latter's expense (Glikman, 2006 in Deschênes & Maltais, 2006; Moore cited in Bernath & Vidal, 2007).

Moore and Kearsley have long forecasted this scenario by recognising as far back as 1996, that "while quite a lot of research has been done on the effectiveness of media, course design techniques and instruction, very little has been done to find out what are effective policies or what are the effective mechanisms for making policy at either national, state, or institutional level. Of course policies are made and are described in reports and other documents, but they are not often subjected to academic analysis, and the process by which they are carried out is even less scrutinized" (Moore & Kearsley, 1996, p. 74). The concern raised therefore appears to be the fact that without a theoretical context, the effectiveness of a lot of distance education research may be called into question.

Theory becomes important because it allows the exploration of more sophisticated issues that allow for more predictable generalisations. In fact, as Moore and Kearsley (1996) argue further,

"while the theoretical frameworks do address certain of the variables, many are not covered by any existing theories… [and] there are no theories that deal with the interactions or interrelationships in terms of the effectiveness of distance learning programs" (p.76). This suggests that revisiting the TDT can charter a map (Bernath & Vidal, 2007) that helps open up new vistas for its application. Before we explore this lead further, it is important to discuss the TDT first.

Transactional Distance Theory: What about it?

The Transactional Distance Theory is concerned with independent study and highlights the shared responsibility of the teaching/ learning enterprise with the independence of the learner seen as the most important and desired outcome (Moore, 1993; Deschênes & Maltais, 2006). This outcome is the result of shared negotiation through dialog and structure between teacher and learner.
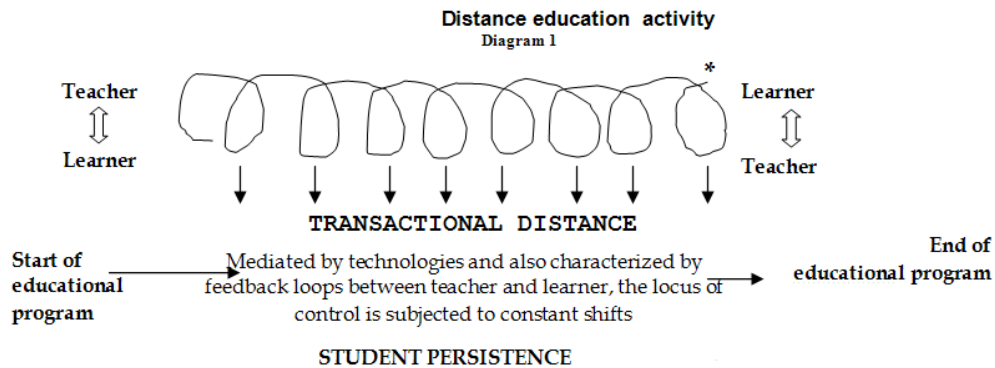
On the one hand, structure and dialog can "describe the extent to which course components can accommodate or be responsive to each learner's individual needs" (Moore & Kearsley, 1996, p.200). This requires a high range of thinking skills from the learner including thinking about the learning activity – or meta-cognition. Meta-cognition or the thinking about and organising one's learning, is seen to be a critical thinking skill that resonates with reflective practice. Structure and pedagogical dialog help organise the teachers' and learners' reflective practices and enhances student participation (Deschênes & Maltais, 2006, pp.55-56). There is an inverse relationship between structure and dialog – that is the more structured an educational program the lesser space is provided for dialog or interaction and negotiations of meaning during the teaching/ learning process, and the greater the distance between the teacher and learner. The greater the transactional distance, which is viewed as a space for potential misunderstanding, the more responsibility is required of the student (Moore & Kearsley, 1996, p. 204).

TDT can also be used to map the transition from the behavioural approach to learning, especially for the novice learner who probably requires more structure with objectivist instruction at the beginning of an educational program versus the experienced and more mature learner who may require less structure, possibly within more constructivist patterns of teaching/ learning, (Saba, 2003). The varying use of structure and dialog can be applicable to all generations of distance education – generations being especially characterised by the use of particular media ranging from the first print-based correspondence instruction through to the use of radio and television recorded programs; to the use of satellite and telephony and; eventually to the World Wide Web for online or email-based instruction.

Preferring a constructivist approach to a behaviourist stance Moore (1972) focused on the concept of autonomous learner as responsible for decreasing transactional distance given their position in the structure/ dialog dichotomy. This idea is echoed by Keegan (1993) who argues that towards the end of the educational enterprise "there is little distinction between teacher and taught. They are both participating in the shared experience of exploring a common world" (p. 126). In addition, Keegan sees the inter-subjectivity of teacher and learner in the educational transaction by the way that they share control and responsibility of the two-way communications in distance education. Learning happens through mutual sharing and negotiations of meaning between teacher and learner in such a manner that the locus of control shifts from one to the other constantly through the feedback process, which Saba (2003; 2007) calls the "feedback loop."

In response to Garrison (2000) that the creation of a visual model would go a long way towards clarifying the structural relationships among these concepts, the following is a proposed visual representation. Transactional distance is illustrated in Figure 1.

Figure 1. Distance education activity

Distance education activity
Diagram 1

Teacher ⇕ Learner

*

Learner ⇕ Teacher

TRANSACTIONAL DISTANCE

Start of educational program

Mediated by technologies and also characterized by feedback loops between teacher and learner, the locus of control is subjected to constant shifts

End of educational program

STUDENT PERSISTENCE

Adapted from Saba (2003; 2007)

Figure 1 demonstrates how part(s) of the theories or perspectives held by the theorists (described in Table 1) can be found within the Transactional Distance Theory, which contains all elements – including educational transaction mediated by technologies between teacher and learner – within a relationship of mutual respected that rests on mutually negotiated balance of control. As the locus of control shifts, and the learner persists along the educational program, the ultimate result is the creation of the *persisting* autonomous learner.

At the start of the learning enterprise, there is a hypothetical teacher in a mutually responsible sharing relationship with a hypothetical learner. Between them is the transactional distance, which is a space for potential misunderstanding. The teaching/ learning transaction happens in an environment that is characterised by a separation of teachers and learners, and special procedures are required to remove this distance. It is the psychological and communication space that characterises transactional distance, (Moore & Kearsley, 1996; 2005). Mediated by technologies, an inverse relationship between structure and dialog will determine the transactional distance; that is the more autonomous the learner, the less structure is required – this gives rise to more dialog or interaction as meanings are constantly negotiated in the educational enterprise.

As the student persists from the start to the end of the educational program, the locus of control may change from the teacher to the learner, thus adding to the 'healthiness' of the exchange (Deschênes & Maltais, 2006). Locus of control is a concept that may demand further research – it may emerge as a very strong predictor of persistence because it is indicative of a very personal will to complete an educational program. Learners with an internal locus of control defined as those who hold the belief that the outcome of a situation is contingent on their own behaviour, appear to have higher rates of completion (Dille & Mezack cited in Parker, 1999; 2003). This is seen to be a determinant of self-efficacy and to have strong links with self-directed learning.

To simplify the interrelationships between the constructs inherent in the TDT, Saba developed the idea of the feedback loop to demonstrate the inverse relationship between dialog and structure. This has been incorporated in Figures 1 and 2 respectively. Achievement of the educational goals is demonstrated by the use of the feedback loop that indicates the "cybernetic relationship between instructor and learner" (Saba, 2003, p. 11) and helps reconcile seemingly opposite concepts: a "negative feedback loop provides a mechanism for determining how much transactional distance is desired and required at each point in time" (Saba, 2003, p. 11). Feedback loops operate to reduce this transactional distance such that there is more 'transaction' and less 'distance' in a mutually responsible, respectful (Garrison, 1993, p.13) and *interactive* or rather *dialogic* sharing relationship. Garrison's comprehensive model (1997) and his concept of control (1993) included notions like control, critical reflection, and responsibility as the three dimensions of self-direction. Gibson and Lee (2003) assert that Garrison's model suggests that interaction also "influences self-direction on the assumption of shared control based on dynamic communication among the teacher, learners and the curriculum. Finally, the concept of responsibility was defined as the students' active attitude or willingness related to learning" (Gibson & Lee, 2003, p. 174).

Thus the transactional distance theory suggests that "there are two critical underlying variables – structure and dialog – and that these are in relationship to learner autonomy. Thus as a pedagogical theory, this theory explains the nature of programs and courses as well as how the teachers and learners behave in their interactions" (Moore & Kearsley, 1996). In support to this view, Saba (2003) argues that accountability for interaction is of utmost importance in a systems approach. This helps benchmark the quality of an educational program in terms of its final effectiveness – the learner has learnt meaningfully (Deschênes & Maltais, 2006). Regarding the application to distance education based on a range of technologies in the spectrum available across the generations, Moore and Kearsley (1996) argue that different technologies can support the use of a variety of media. For example, "certain books, audiotapes, or videoconferences are different in the ways they support varying degrees of structure in educational programs, different degrees of dialog between teachers and learners and among learners as well as differing degrees of self-directedness of the learners" (p. 10).

The above discussion further validates the use of the Transactional Distance Theory which is intended to be global and descriptive in what Moore calls "molar theory" thereby defining it as a matrix within which all other theories can find root and can help address the different systems or components of distance education (Moore & Kearsley, 1996). It establishes the ground for the development of other molecular theories - meaning theory as identified by the following three clusters of variables – dialogue, structure, and learner autonomy – that can then be subsumed under the various components or subsystems of distance education.

This theory is constantly enlisted to analyse issues around the concept of distance education, especially in the Saba and Shearer (cited in Saba, 2003; 2007) study where the first visual representation of the Transactional Distance Theory was made. Finally, this theory has affirmed a new identity for distance education beyond its initially understood concept of geography to include that of pedagogy, andragogy, and psychography. Successful distance teaching will depend on the range of relevant facilities and procedures in the exchange between the distance learner and the teacher to reduce the transactional distance.

Towards a New Synergy

When Moore's TDT which carries dialog and structure as its main variables is put in dialog with Deschênes' organising strands of student persistence this creates a third synthesis as will be now explained. It is, indeed, towards this synthesis that most distance education theorists are converging. The new synergy appears to validate TDT as a global theory because it is now demonstrably comprehensive of organisational and pedagogical issues; has possible implications for quality and policy that have to be explored. The systemic approach that subsumed the development of the TDT is also worthy of exploration to identify the possible extended applicability of this theory.

At about the same time Moore developed the TDT (1993), another scholar, Henri (1992) introduced a framework that was aimed at helping distance education practitioners understand and explain the teaching and learning processes. Her model carried elements like participation, interaction, social, cognitive, and meta-cognitive. These were further refined by Deschênes (Deschênes *et al,* 1992; Deschênes, 2006; Deschênes & Maltais 2006) who synthesised the above elements into three strands of student persistence: the cognitive, the meta-cognitive, and the affective. The different elements that affect learner persistence have been organised in three respective strands that find echoes in the respective components of TDT. A fourth strand – socio-economic – has been subsumed under the affective and meta-cognitive strands respectively. This is best illustrated in Table 2.

Table 2. Braiding Moore's TDT and Deschênes' organising strands of student persistence

Transactional Distance Theory (TDT)	Structure	Dialog	Independent Study
Organising strands of Student Persistence	Cognitive	Affective *Socio-economic strand*	Meta-cognitive

The third synergy then consists of transactional and organisational issues that are supported by cognitive, affective, and meta-cognitive issues. Braided and consolidated within the TDT, the above strands will help organise our understanding regarding what best promotes student persistence. The desirable end result of this transaction is learner autonomy – that is a learner who has been able to persist through the transactional distance and has successfully merged the cognitive with the affective and meta-cognitive strands to their best negotiated requirements and who is now a fully autonomous learner. The feedback loop *has been redesigned to incorporate the three strands proposed by Deschênes* (Deschênes *et al,* 1992; Deschênes, 2006; Deschênes & Maltais 2006) and is demonstrated by the colour coding.

Figure 2. Distance education activity
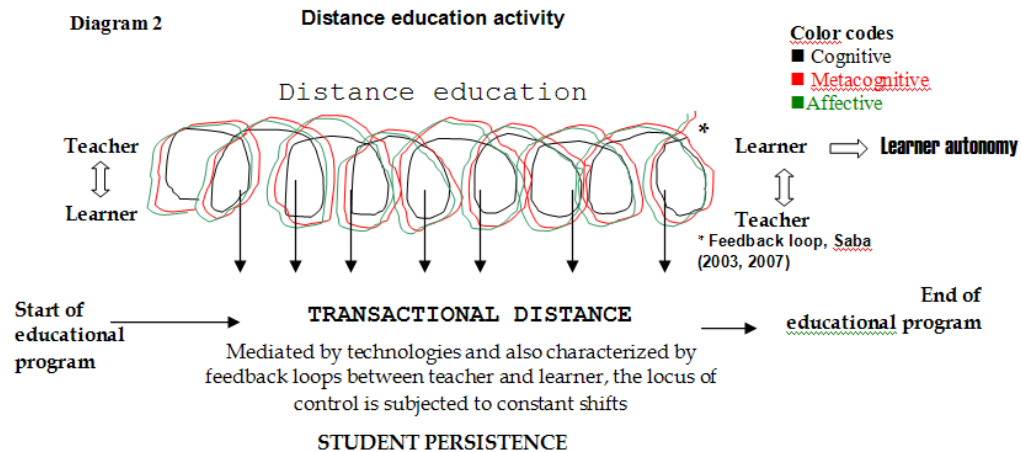
TDT is concerned with the psychographic view of the learner who is expected to share responsibility for his or her own learning processes. Learners thus assume much importance in the teaching/ learning transaction. The nature of the learner, especially the potential to undertake autonomous learning, can be expected to have an important effect on transactional distance in an educational program. TDT, therefore, is as concerned with geographical distance as it is with psychological and social distance; and thus with cognitive, meta-cognitive, socio-economic, and affective issues. The dialog between Moore's and Deschênes' theories indicate the development of a third synergy whose applications beyond simply teaching and learning should be explored. This is further discussed in the next section.

What Answers Can be Provided by Transactional Distance Theory?

In the light of the above discussion, Transactional Distance Theory appears to be able to explicate organisational, pedagogical, and even policy related issues. The fact that nearly two decades after its development, most theorists are converging towards TDT, and moreover, their own individual theories carry elements of the TDT, appears to justify the need to explore this theory as a global one that can sustain future developments in distance education. At this juncture, it is necessary to discuss the systems perspective that subsumes the Transactional Distance Theory. Indeed, approaching distance education through a systemic view which subdivides all the components of distance into various groups facilitates all types of interventions, including academic and the evaluative, such that distance education as a discipline can be said to belong to a culture of continuous improvement.

The systems model provides a tool that helps recognize the several distinctive issues that separate distance education from conventional education; helps us distinguish good practice from bad; and highlights the piecemeal and unplanned fashion in which many providing institutions operate. It is argued that "it will be better for students, teachers, and educational institutions if every distance education course was designed and developed in a systematic way and if every distance education

organisation is developed, as other modern agencies are, as a total system" (Moore & Kearsley, 1996, p. 6).

Under the systems approach, distance education components can be further subdivided into sub-components. The systems approach enables an approach to distance education that simultaneously allows a compartmentalized and a comprehensive view. That is while the sub-systems can be broken down into easily manageable functions, one does not lose sight of the interrelationships between the parts.

The following adaptation in Figure 3 of Moore and Kearsley's systems Model of Distance Education is very useful:

Figure 3. Moore and Kearsley's Systems Model of Distance Education Model (1996)
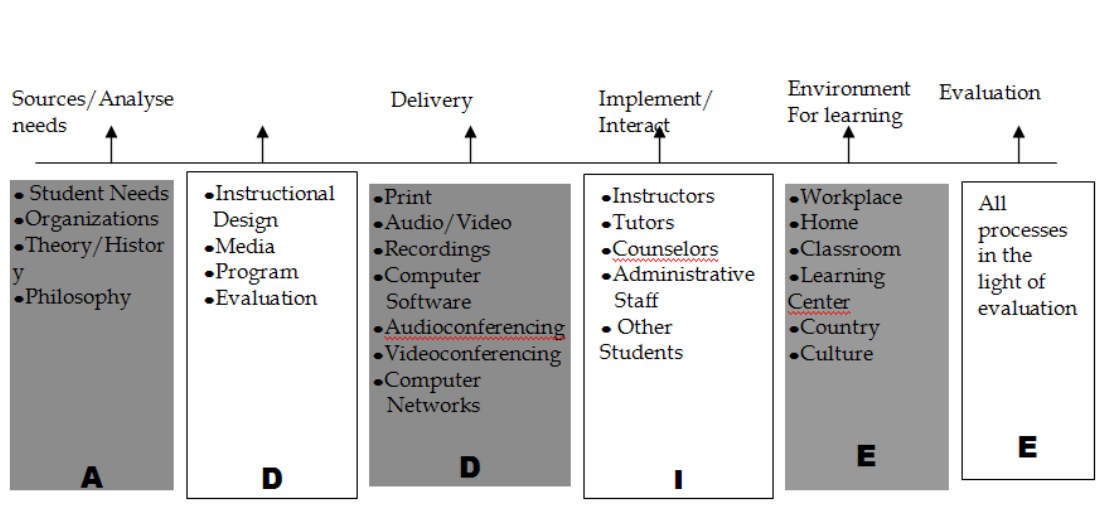
In Figure 3, note that the different components of distance education having been broken down into smaller, more manageable pieces from which it is easier to elicit data and intervene. The transactional processes also become clearer, as does the interplay between the numerous factors beyond the teacher and the learner. It is based on an extended version of the ADDIE model (Analyse, Design, Develop, Implement and Evaluation). The ADDIEE model here, however, stands for: **A**nalyse, **D**esign/**D**evelop, **D**elivery, **I**mplement/**I**nteract, **E**valuate. An additional E – **E**nvironment – has also been deliberately added.

The above systemic model also takes into consideration the contextual element – that is, the added **E** for **E**nvironment. This implies addressing a range of issues including creating quality learning resources using technologies suitable for the target audience and the content of the learning programme, introducing mechanisms supporting distance learners, establishing efficient administrative processes based on appropriate organizational structures and ensuring that quality assurance procedures operate. At this point it is worthwhile to understand whether or not the Transactional Distance Theory has applications beyond simply the teaching and learning transaction within a given organisation.

Can Transactional Distance Theory Have Other Applications?

Education is everybody's business – the individual, the organisation, and the nation state. It is argued that as an agent of development, the government is responsible for what happens on its territory and for protecting its citizens as consumers of higher education. This responsibility should also be extended to all its providers, public and private, especially when the qualifications awarded purport to come from the home country. Quality assurance is at the heart of distance education policy development and becomes crucial in contributing towards making distance provision globally competitive, portable across borders, and finally in protecting consumers of education. The following, as illustrated in

Figure 4, is a proposed model of extending the applications of the Transactional Distance Theory to include wider concerns that should be recognised as part of the systems model.

Figure 4. Proposed Model for Extending the Applications of Transactional Distance Theory
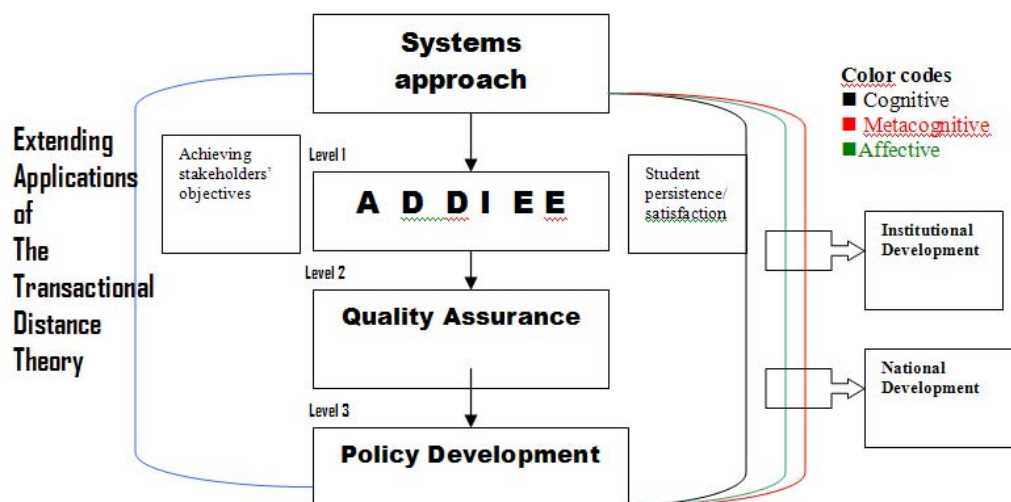
Based on the systems approach, there is a cascading effect from one level to another as represented by the systemic approach at Level 1, quality assurance at Level 2, to policy development at Level 3 (see Figure 4). At Level 2, quality assurance can take an overarching perspective. Quality assurance in distance education is constantly evolving, as reflected by changing learner profiles and educational technologies. Using the systems approach effectively, quality assurance plans enable institutions to check the health of measurable factors like the quality of applications, enrolments, student achievement, quality of course materials, course development processes, and learner and teacher satisfaction. Quality assurance procedures are meant to focus on improving the learner-centeredness approach to its clientele.

On the other hand, distance education policies provide a framework for distance education and open learning operations – they provide courses of action with clearly defined inputs based on specific, contextual resources; clearly articulated processes and finally well-enunciated desired outcomes. These can be at national or institutional levels. With regard to the innovative nature

of distance education, policies become especially important since distance education is perceived as different from traditional classroom instruction, "or involves the collaboration of different groups, or might divert resources of money and people's time from conventional methods, it will raise issues that require policies to be made not only within the institution, but also outside, perhaps at state or even national levels" (Moore & Kearsley, 1996, p.184). Policy contributes to better understanding of a concept that is related to national concerns and contributes to more effective and efficient practice.

The field of policy development is very complex. The expanding nature of distance education makes it even more complex. As Pacey and Keough (2003) argue, "a policy typically speaks to context, resources, activities, and desired outcomes" (p. 402). Broadly, thinkers in this field discuss distance education policy in terms of education and telecommunications policies that are in turn influenced by an increasing emphasis on innovation and partnership which directly impact on institutional planning strategies. In addition thinkers like Simonson and Bauck (2003) agree that "one key indicator that distance education is moving into the mainstream is the increased emphasis on the need for policies to guide its effective growth" (p. 417). They also provide a comprehensive list of categories that should constitute the research agenda for distance education policies: academic; fiscal, geographic, and governance policies; faculty policies; legal policies; student policies; technical policies and finally philosophical policies. Speaking about the USA, Lezburg (2003) draws attention to the problems that may arise either in the absence of policy or in the existing disparate types of policies that have been developed across the United States. Sherry (2003), on the other hand, notes the importance of research on quality assurance in distance education and brings into dialog three differing viewpoints relating to the institution, the instructor, and the learner respectively into one comprehensive perspective and argues that these should form part of a national policy framework or guidelines to ensure the sustainability of the desired interventions (Sherry, 2003) Interestingly, Kaufman and Watkins (2003) provide an innovative framework that "lies beyond the boundaries of the conventional thinking within higher education . . . and will likely challenge many of the 'truths' on which many institutions have built their past success" (p. 507). These authors argue that institutional goals should be based on an understanding of potential student market. For example, TDT can be useful in providing intelligence regarding the degree of structure/ dialog required; which will be required to indicate, for instance, the number of teachers an institution will need to employ, the type of student support that will be required, the media that needs to be used and so forth. This, in turn, will also provide information regarding the level of the target audience (e.g., implications for national development) and will also indicate, for example, the type of labour that will be available in any given country post-training/ educational program.

Transactional Distance Theory positively influences policy development because it gives indications on how meaningful student measures can be taken to decrease distances to ensure students' cognitive, meta-cognitive, and affective needs are effectively met. In turn, as students benefit from enhanced quality distance education, this can be entrenched in policy development.

Discussion

Policy provides a map, guidelines, and sets parameters that determine the level of acceptable quality at one particular moment in time. The above has been an attempt to demonstrate that the Transactional Distance Theory can have applications beyond simply measuring distance in terms of structure and dialog. It is useful along all the supply-chain of the distance education enterprise – not simply teaching and learning, but also based on the strands for student persistence. In sum, TDT can indicate whether intervention should be in terms of cognitive, meta-cognitive, or

affective. TDT can indicate whether such intervention should affect needs analysis processes; design and development issues; delivery concerns; interaction or teaching/ learning transaction; implementation, context; and evaluation. It can also provide a sound understanding of what constitutes quality based on any one component within the systems model. This level of understanding can then feed into policy development – an absence of a policy that actually and effectively articulates the range of provisions that promote quality would imply an irregularity in the parameters of interventions. Such irregularity makes it difficult to achieve consensual acceptance. Policy is instead seen as a determinant of quality, and this establishes a link between the two. It is important, however, to determine the strength of that linkage to justify the resources and energies that should be spent on policy development. Since public policy usually influences institutional policy, policy and quality are intimately linked and together contribute to institutional as well as national development. Further research is thus warranted to firmly establish the argument that the Transactional Distance Theory can go beyond simply measuring distance and can usefully inform quality assurance and policy development for distance education. Further research should be able to test and validate the new proposed synergy.

References

Amundsen, C. (1993). The Evolution of Theory in Distance Education. In Keegan, D. (Ed.). *Theoretical Principles of Distance Education* (pp. 61-79). London: Routledge.

Black, L. M. (2007). A history of scholarship. In M. G. Moore (Ed.) *A Handbook of distance education.* (pp. 3-10). Mahwah, NJ: Lawrence Erlbaum Associates.

Deschênes, A.J., Bourdages, L., Michaud, B. & Lebel, C. (1992). Les activités d'apprentissage dans des cours conçus par l'enseignement à distance. *Journal of distance education/ Revue de l'enseignement à distance, 7*(1), 53-81.

Deschênes, A. J. (2006). *Un programme d'initiation à la formation a distance de type constructiviste: Un réseau de communication pour l'apprentissage* [In French]. Sainte Foy, PQ: Tele- Université. http://cqfd.teluq.uquebec.ca/distances/D1_2_c.pdf

Deschênes, A. J., & Maltais, M. (2006). *Formation a distance et accessibilité*. Sainte Foy, PQ: Tele- Université.

Bernath, U., & Vidal, M. (2007). The Theories and the Theorists: Why theory is important for research, with Børje Holmberg, Michael Graham Moore, and Otto Peters. *Distances et savoirs 5*(3), 427-457.

Garrison, D. R. (2000). Theoretical challenges for distance education in the 21st Century: A shift from structural to transactional issues. *International Review of Research in Open and Distance Learning, 1*(1). http://www.irrodl.org/index.php/irrodl/article/view/2/22

Garrison, D. R. (2003). Self Directed Learning and Distance Education. In M. G. Moore, & W. G. Anderson (Eds.) *Handbook of Distance Education*. (pp.161-168). Mahwah, NJ: Lawrence Erlbaum.

Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating Cognitive Presence in Online Learning: Interaction Is Not Enough. *The American journal of distance education. 19*(3), 133–148.

Gibson, C. C. (2003). Learners and Learning: The need for theory. In M. G. Moore, M. & W. G. Anderson, (Eds.) (pp. 147-160). *Handbook of Distance Education*. Mahwah, NJ: Lawrence Erlbaum.

Gibson, C. C., & Lee, J. (2003). Developing self-direction in an online course through computer-mediated interaction. *American Journal of Distance Education. 17*(3), 173-187.

Glikman, V. (2006). Preface. In A. J. Deschênes & M. Maltais (Eds.) *Formation a distance et accessibilite*. Montréal, PQ.: Télé université.

Holmberg, B. (1989).*Theory and practice of distance education.* London: Routledge.

Holmberg, B. (2003). A theory of distance education based on empathy. In M. G. Moore & W.G. Anderson. (Eds.) *Handbook of distance education* (pp.79-86). Mahwah, NJ: Lawrence Erlbaum.

Holmberg, B. (2007). A theory of teaching-learning conversations. In M. G. Moore (Ed.) *Handbook of distance education* (pp. 69-74). Mahwah, NJ: Lawrence Erlbaum.

Keegan, D. (1993) (Ed.). *Theoretical principles of distance education*. London: Routledge.

Lee, Y., Driscoll, M. P., & Nelson, D. W. (2004). The past, present, and future of research in distance education: Results of a content analysis. *American Journalof Distance Education, 18*(4), 225-241.

Lezberg, A. K. (2003). Accreditation: Quality control in higher distance education. In M. G. Moore & W. G. Anderson (Eds.) *Handbook of distance education* (pp. 425-434). Mahwah, NJ: Lawrence Erlbaum.

Moore, M.G. (1972). Learner autonomy: The second dimension of independent learning. *Convergence 5*(2), 76-88.

Moore, M.G. (1993). Theory of transactional distance. In D. Keegan (Ed.). *Theoretical principles of distance education.* London: Routledge.

Moore, M., & Kearsley, G. (1996). *Distance Education – A systems view.* Belmont, CA: Wadsworth.

Moore, M., & Kearsley, G. (2005). *Distance Education – A systems view.* Belmont, CA: Thomson Wadsworth.

Moore, M. G. (2007). Theory of transactional distance. In M. G. Moore (Ed.).*Handbook of distance education* (pp. 89-101). Mahwah, NJ: Lawrence Erlbaum.

Pacey, L., & Keough, E. (2003). Public policy, institutional structures, and strategic implementation. In M. G. Moore & W. G. Anderson (Eds.) *Handbook of distance education* (pp. 401-416). Mahwah, NJ: Lawrence Erlbaum.

Parker, A. (1999). A study of variables that predict dropout from distance education. *International Journal of Educational Technology 1*(2). http://smi.curtin.edu.au/ijet/v1n2/parker/

Parker, A, (2003). Identifying predictors of academic persistence in distance education. *USDLA, 17*(1), http://www.usdla.org/html/journal/JAN03_Issue/article06.html

Peters, O. (1993). Distance education in a post-industrial society. In Keegan, D. (Ed.) *Theoretical principles of distance education*. (pp. 39-61). London: Routledge.

Saba, F. (2003). Distance education theory, methodology, and epistemology: A pragmatic paradigm. In M. G. Moore & W. G. Anderson (Eds.) *Handbook of Distance Education* (pp. 3-21). Mahwah, NJ: Lawrence Erlbaum.

Saba, F. (2007). A systems approach in theory building. In M. G. Moore (Ed.) *Handbook of distance education*. (pp.43-57). Mahwah, NJ: Lawrence Erlbaum.

Sherry, A. C. (2003). Quality and its measurement in distance education implementation. In Moore, M. G. & Anderson, W.G. (Eds.) *Handbook of Distance Education*. New Jersey: Lawrence Erlbaum Associates, Inc.

Simonson, M., & Bauck, T. (2003). Distance education policy issues: Statewide perspectives. In M. G. Moore & W. G. Anderson (Eds.) *Handbook of distance education*. (pp. 417-424). Mahwah, NJ: Lawrence Erlbaum.

Watkins, R., & Kaufman, R. (2003). Strategic planning for distance education. In M. G. Moore & W. G. Anderson (Eds.) *Handbook of Distance Education*. (pp. 507-518). Mahwah, NJ: Lawrence Erlbaum.